Hellenistic Architecture in Syria

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A DISSERTATION

PRESENTED TO THE
FACULTY OF PRINCETON UNIVERSITY
IN CANDIDACY FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

BY

S. BUTLER MURRAY, JR.



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PREFACE

The purpose of this thesis is to show that the architecture of Syria up to the end of the third century A.D. was Hellenistic. In general only dated monuments have been considered, or those whose period can be determined with certainty. With these restrictions, all the monuments of Northern Central Syria and of the Djebel Hauran, showing details of any importance, have been considered. Baalbec, as being in process of publication, has been omitted except for occasional reference. South of the Hauran only the ruins at Arak il-Emir have been included, with those of Djerash and Amman for reference. Monuments published by Mr. H. C. Butler since April, 1912, are not included.

In the spelling of names the system has been followed that is employed by Dr. Enno Littmann in the publications of the American Archaeological Expedition to Syria in 1899-1900 without the use of diacritical signs. For a clearer illustration of some details reference has been made to the photographs taken by the same expedition. Full sets of these may be secured on application to the American Archaeological Expedition to Syria, University Library, Princeton, N. J., U. S. A.

I desire to take this opportunity to extend to Professors Allan Marquand and Charles Rufus Morey my grateful acknowledgment for their guidance and criticism in my studies in archaeology: but especially I acknowledge my very great indebtedness to Professor Howard Crosby Butler. It was at his suggestion that this investigation was begun, and his invaluable aid, both in material and suggestion, alone made it possible.

S. Butler Murray, Jr.

Merwick, Princeton University,
April, 1912.
Revised, July, 1917.

HELLENISTIC ARCHITECTURE IN SYRIA

INTRODUCTION

In his "Kleinasien," Strzygowski, speaking of the architecture of the East in the fourth century, has pointed out that it "nicht anderes als eine Art Nachblüte sein dürfte von dem, was die hellenistische Kunst des Orients auf diesem Gebiete schon früher geschaffen haben muss."[1] and again, "Was Konstantin in seinen Monumentalbauten an den Anfang der christlichen Reichskunst stellte, das war nicht funkelnagelneu aus dem Boden gestampft, sondern nur möglich im Gefolge einer grossen Entwicklung der hellenistischen Architektur in den Grosstädten des Orients. Von ihr aber wissen wir bis heute so gut wiegarnichts."[2]

We have, indeed, only too scanty remains of this developed Hellenistic art, such as must have flourished at Antioch. Yet in the rest of Syria, and especially at Palmyra, there is a wealth of material. Little or no attention has been paid to the architecture of Syria beyond the splendid publication of the monuments by M. de Vogue and by Howard Crosby Butler. References to it fall into two classes; some simply assume it to be Greek, while others call Roman everything that belongs to our era, the period of Roman political supremacy[3] either classification being made without any specific details or proof. Butler alone has directly denied the Roman influence in the architecture of this time,[4] and he suggested this investigation of details.

As was stated in the preface, it has been necessary in general to consider only dated monuments. Yet the number of these is so great, and the evidence they offer so varied and so striking, that only a presentation of details by single monuments could suffice. Furthermore, such strong Oriental influence was, in many cases, present beside the Greek, that only the presentation of the monuments as a whole could lead clearly to the necessary conclusions. This has caused much borrowing from Butler's publications. Without his permission to use his material it would have been impossible to present this chapter in Syrian architecture.

Syrian monuments have been divided into two great classes; those built before Roman dominion, and those succeeding it.[5] But it by no means follows that the advent of Roman political power meant the advent of Roman artistic supremacy. Pompey's campaign was too hurried to be lasting even in its military results: and later we find Antony attempting to plunder Palmyra as an alien and hostile city.[6]

The effect of Roman conquest upon the conquered territory was political reorganization. Laws and government they imposed, but religion and the arts they took unto themselves from the conquered people. It was as if the Roman obeyed literally the command—

> Tu regere imperio populos, Romane, memento;
> Hae tibi erunt artes; pacisque imponere morem,
> Parcere subiectis et debellare superbos.

As Butler has said in speaking of the region of the South[7] —"What we call the 'Roman architecture' was not an art that was brought from overseas and transplanted in new soil, but represented the mere extension of the art of one portion of Syria to another portion—from Greek Syria to Semitic Syria—a process which Rome, with her wonderful power for organization and amalgamation accomplished as doubtless no other power could have done."

The comparative peace and security afforded by Roman rule and the stable organization of civil affairs made possible the further development of an architecture that was an heritage when the Romans first came and which had already made its force felt at Rome.[8] To show this is the aim of this discussion but for the Romans to *introduce* an art of their own was impossible if for no other reason than that they had none, but were borrowing from just these provinces, with which conquest had brought them into contact, and were carrying home the spoil that made Rome the clearing house of the world. In the Imperial architecture of Rome we find only another species of Hellenistic architecture with certain local modifications, the results of its new environment. Even the strongest adherents of Rome as an artistic center, originating rather than receptive, claim only the arch and all that it involves as an individual feature. Yet we shall see that the arch was used in Asia Minor in Hellenistic times before Rome had finished her struggles with Carthage. And it is doubtful whether Etruria, in

bequeathing the arch to the other Italian peoples, did not merely pass on what she herself had received from the East.

It would be absurd enough to speak of Rome introducing forms of her art upon another, when she had received them from the common parent; but a worse field than Syria for such a transplanting could scarcely be imagined. As Diehl has said in speaking of Syria—"In spite of the profound influence exerted by Greek civilization, in spite of the long duration of Roman domination, the country had always remained 'fort particulariste'—Assuredly the great cities, such as Antioch, had become, quickly enough, capitals of Hellenism—but, beneath this veneer of Hellenism, there persisted, above all in the country, the characteristic traits of the Semitic race, so deeply impressed on their souls that Syrian Christianity took its special character from them."[9]

Negative criticism in itself is worthless. Therefore it has not been sufficient to show that the Syrian monuments are not Roman: the attempt has also been made to recognize those elements that are Oriental, and particularly to notice original features, such as the arched intercolumniation, which show that this Hellenism in Syria was not the last effort of a decadence, but a living growth, possessing in itself the power for further and greater development.

Comparison has been made most frequently with Hellenistic monuments of Asia Minor; not that Syria necessarily borrowed from Asia Minor, but because Asia Minor best represents the stage of Greek civilization before and during the period under consideration. Had we any knowledge of Antioch, the capital of the world, which was by far the most influential center of the East, there would probably be no thesis to prove. As it is, we must turn to other and less important centers for the material for comparison.

Attention has already been called to the fact that the Syrian architecture shows a quite different spirit from that shown in the monuments at Rome.[10] And, as the consideration of the individual monuments will show, this is a Greek rather than Roman spirit.

In the case of the earliest monuments it is, of course, impossible to deny that they are a direct Hellenistic heritage. The Kasr il-Abd at Arak il-Emir, the temples and tomb at Suweda, and the two temples at Si were all built before the Romans could secure even a definite political influence in the country.

Yet, even when we come to the first and second centuries A.D., when marks of a Roman influence, if there was ever to be one, must surely have appeared, we find still the Hellenistic architecture, maintaining greater purity than its cousin at Rome and developing within itself new features that will appear later in the conglomerate style of Rome.

We have already said that the mass of evidence, the wide unfamiliarity of the subject, the presence of different threads of artistic influence, and above all the organic growth of the architecture, necessitated a chronological presentation of individual monuments. It will be well therefore, before proceeding to the evidence, to state briefly the general conclusions which that evidence demands.

There are very few monuments that do not show some native or Oriental influence. This is strongest in the Hauran, owing to the power of the Nabataeans, and there, in one period, that of the temples at Si, its strength amounts to an almost complete eclipse of Greek tradition.

The temple plans, while in general following Greek tradition, show, at times, native modifications, as at Suweda, Kanawat, Si, and at Palmyra.

Certain individual characteristics were doubtless caused by the material used. The extreme hardness of the basalt was evidently the reason for unchanneled columns everywhere in the South and for the total absence of dentil courses. On the other hand, we find fluted shafts at Palmyra, and dentils at both Burdj Bakirha and Dmer and in other Syrian buildings.

Perhaps the most striking characteristic of all the monuments is their purity of proportion. We shall see in the discussion of the various buildings, how much more closely the entablature was conformed to the Greek proportions than to those of Rome. After all it was only natural that the Hellenistic tradition should remain purer in a country where it was opposed only by one and a totally different influence, than in the Imperial city where countless varieties and shades of artistic expression were mingled.

In all the monuments the acanthus is of the crisp 'V' section that is characteristically Greek, and which the earliest Italian examples, that are purely Hellenistic, also show.[11] Again, in the acanthus rinceaux, at a time when Rome covered the stalks completely in a meaningless manner, the purity of the Greek tradition was maintained.[12] This purity in decoration is uni-

versal. There is none of that florid excess of ornament that distinguishes—or mars—the Imperial architecture. The temple of Burdj Bakirha to take but one example, is a striking contrast to that of Antoninus and Faustina: and, in the creation of new types, such as the composite capital, the purity of the original forms is retained. There are no such florid creations as the capitals of the Caracalla baths.

The typical Roman temple plan with deep pronaos and one or more columns on the return, does not occur.[13] Still more significant is the fact that the modillion cornice, inseparable from the Roman order, is usually replaced by a cymation.[14]

On the other hand there is abundant evidence to show that Syrian architecture had a growth and development of its own, but a growth and development that arose from the earlier Hellenistic tradition. With the exception of Dmer, the fruits of this development lie beyond our period, that is, after the end of the third century; but, in the time under consideration, several new features were evolved that were, later, to furnish the material for that marvellous development in church architecture which took the West several centuries to equal.

The arching of the entablature over the central intercolumniation was the most significant of these 'innovations.' Its earliest appearance in Syria is in the case of Nabataean monuments to be quoted later, and, in the discussion, it will be seen what use of the arch was made by the Asia Minor Greeks. A reason, purely theoretical, has been there advanced in support of the direct Hellenistic rather than the Eastern origin, so far as Syria is concerned. On the other hand it must be admitted that this arching of the entablature first occurs in a temple in which the Eastern influence is much the stronger, although in no other detail of the temple does this influence occur in the introduction of a form or principle of construction.

Another 'innovation' is the development of the niche as a wall decoration. It appears as early as the arched entablature and its use steadily increases in each succeeding period.

Perhaps the most interesting feature, if not the most important for our field, is the development of the 'adyton' in the temple cella, and then the creation of a 'crypt' by the vaulting of the cella floor. The addition of side chambers in the 'adyton' gives a prototype for the sanctuary of a Christian church. In this case, as in others, limitation of space and field has prevented the treatment of much of very great interest. An even

greater handicap has been the lack of any systematic treatment of the development of Roman architecture. However, the latter can only be of use after there has been a clear recognition of the relations of the Imperial architecture to those of the countries that came under the Roman sway.

ARAK IL-EMIR

The *Kasr il-Abd,* at Arak il-Emir, in the country east of the Jordan and south of the Hauran was first seriously described by M. de Vogue in his Temple de Jérusalem.[15] It has been noticed by many travellers and explorers,[16] but its complete publication and description are due to Mr. Howard Crosby Butler.[17] In endeavoring to single out the Greek influence in the architecture, reference will be made to his work alone. He has given in full the history of the site, so far as is known, and the evidence for the probable date of the Kasr il-Abd.

In the megalithic character of the masonry, M. de Saulcy has seen Phoenician influence, while in the frieze of lions we cannot but be reminded of the almost identical one at Susa.[18] Indeed it seems highly probable that in this monument several lines of artistic tradition met to receive a more or less free handling by the builders, as is certainly the case with the Greek, with which alone we are concerned.

To take up the details, in the north porch there are plinths beneath the column bases, a use occurring as early as the III Cent. B.C. in the propylon of the agora at Magnesia.[19] The plinths are not of one piece with the base as was the Roman custom,[20] but are separate blocks, as at Priene; and Magnesia shows the same cutting of the entire base, both of the columns and pilasters, on the lowest drum of the shaft.[21] At a height of 16 cm. above the base the shaft carries a projecting ring, which Mr. Butler believes had to do with quarrying or transportation.[22] The profile of the base itself is, curiously enough, very close to that of the best period of Greek architecture. As the Hellenistic period advanced the base scotia was cut back more and more, giving greater prominence to the upper torus,[23] but here the hollow of the scotia lies very little nearer the shaft center than the convex of the upper torus,[24] as in the base of the Erectheion[25] and of the monument of Lysicrates.[26]

The shafts are unchanneled as is almost universal throughout Syria.[27] The capitals, which, in Mr. Butler's restoration, are assigned to the north porch, are a variety of the Greek Corin-

thian.[28] In their general appearance, in the arrangement of the rows of leaves, and in the amount of bell left bare, they are most like those from the Tholos at Epidauros.[29] Yet the springing of the central spirals is different, the abacus is lower, and the leaves, which are of a water plant, are uncut, a capital instance of a native translation of a Greek form. The type of leaf and the disposition in a double row is precisely that found on the base of a pier of the second order,[30] the upper in the restoration.

The entablature is an adaptation of the Greek Doric. Architrave, metopes and triglyphs are of one block. The proportion of architrave to frieze, 1:1.14, is almost exactly that of the Temple of Asklepios at Epidauros:[31] that of the triglyph to metope, on the central block of the epistyle, is about one to one and one half, the normal proportion.[32] The upper end of the triglyph groove is finished by a straight horizontal line, instead of a curve as in the best period; but the triglyphs themselves are flush with the face of the architrave[33] and do not project as might easily have been the case if they were copied from a model of the Seleucid period.[34]

The smaller order shows immediately above the upper torus of the base a double row of leaves.[35] This also occurs above the base of a column from the triumphal arch at Djerash[36] and above the bases of the columns of the façade of the temple at Suweda,[37] where, however, the leaves are inverted with sharp tongues showing between. Also in the peribolos of the Temple of Baal Samin at Si[38] two sorts of bases occur. One has a single row of leaves, that are broad and cut; the other, above a broad inverted cyma a narrow one that might easily have received a carved inverted row of leaves. Such a motif is certainly not Attic Greek, but probably of Egyptian[39] origin, or Persian,[40] occuring rarely in the Occident, as on the votive column at Delphi[41] and at the so-called Baths of Diana at Nîmes.[42]

The "Persian" capitals, found in the porch and interior, were apparently intended to be finished, either by finer carving, or by applying metal details.[43] Capitals with bulls' heads that might represent the finished form occur in the "Sanctuary of the Horns" at Delos,[44] and in an example in the British Museum from Cyprus[45] which doubtless were the result of the same Persian influence.[46]

The string course running below the lion frieze is certainly

not Oriental, nor is the cornice that crowns the restored façade. These details, with the bases of the lower order, and the entablature, are Hellenic elements in a monument, otherwise thoroughly Oriental in conception and execution. They are extremely important, however, because they are by far the earliest examples of Greek influence in Syria that we have. The date assigned by Mr. Butler,[47] the beginning of the third century B.C., cannot be too early in view of the resemblances mentioned above to Greek work of the fifth and fourth centuries.

SUWEDA

The *Tomb of Hamrath,* ca. 85? B.C.[48] Apart from the inscription[49] the only Oriental feature of this tomb would be the stepped pyramid that probably rose above the entablature.[50] M. de Vogue found the first course of this still *in situ,*[51] and in his plate I, shows part of a second course. Just such a crowning is found above the Lion Tomb at Knidos,[52] thought to have been erected by the Athenians after their victory at Knidos in 394 B.C.[53] At Alinda, now Dmirji Dressi, is a tomb, on a crepidoma of four steps, distyle in antis, with unfluted Doric columns, crowned by a flat mass of masonry, one course high.[54] Curious combinations of both this rectangular crowning and the elements of a stepped pyramid occur in the façades at Petra[55] and at Hegr[56] pointing probably to an Oriental origin of religious significance.

The Alinda tomb and numerous other examples such as the Mausoleion at Halikaranassos,[57] the Nereid Monument,[58] the Sarcophagus of the Mourners,[59] and Theron's tomb at Akragas,[60] show that the general type of rectangular tombs with heavy crownings was familiar, and not confined to any one part of the Greek world.

The architectural forms of Hamrath's tomb are purely Greek. The unfluted Doric half-columns have no bases, and are 5.179 lower diameters in height, a proportion that belongs to the best period.[61] Like the best Greek work also is the slight inward batter.[62] The smooth shafts, almost universal in Syria, and the absence from the regulae of guttae and of mutules from the cornice are provincial traits that may very probably be due to the extreme hardness of the basalt. The profile of the echinus, while not that of the best period, is better than that in some Hellenistic examples,[63] and, further-

more, in the greater projection of the echinus, with abacus, in proportion to its height, again the imitation of good Greek models is shown.[64]

The narrow architrave, however, is a sign of decadence, and the distribution of triglyphs, three to each intercolumnar space, is characteristic of the Seleucid epoch, whose influence also appears in the Macedonian helmet with pendants and other armorial ornaments between the columns. Were the tomb that of a warrior these might be otherwise explained, but though Hamrath was a woman we cannot conceive of her as an Amazon, and we find a similar use of armor for decoration on the barriers between the columns of the second storey of the Stoa of Eumenes at Pergamon[65] and in the Bouleuterion at Miletos.[66] The placing of a triglyph at each angle, and the consequent widening of the metope, and the narrowing of the outermost intercolumniations,[67] all are Greek. At Rome, even in the Theatre of Marcellus, where some Greek influence persists, the Vitruvian rule of a half metope at the end is observed.[68]

The profile of the gutter is a cyma as might be expected in a monument executed under Hellenistic influence. Mr. Butler has assigned an approximate date of the early first century B.C.[69]

The Peripteral Temple. This temple,[70] which Mr. Butler dates[71] somewhere between the Tomb of Hamrath, ca. 85 ? B.C., and the temples at Si, 33/32 B.C.-30 A.D., is included in this discussion, which properly has to do only with dated monuments, for the sake of illustrating the gradual trend in the Hauran towards an almost wholly Oriental style, as at Si.

The building has decided irregularities. The plan[72] shows seven columns in the epinaos, a peculiarity found also in the Temple of Helios (?) at Kanawat,[73] and arising perhaps from an Oriental and religious origin.[74]

It is possible that the façade is of different date from the rest of the peristyle. Its unfluted columns[75] have an inverted row of leaves above Attic bases;[76] their capitals exceed one lower diameter in height; and their intercolumniations diminish from the center. On the sides and rear, however, the capitals are less than a diameter, and the intercolumniations are equal, except those next to the corners which are widened for the width of pronaos and epinaos.[77] Mr. Butler informs me that the astragal on the façade angle capital is on the shaft, while in the other cases it is part of the capital, and that it may

be that the temple was originally prostyle and was afterwards made peripteral. Both capitals and bases are very like those of the same period in the temple of Baal Samin at Si.[78]

The architrave is made up of two stone beams, laid side by side over each intercolumniation. On the rear and sides the inside face of the inner of these is plain; the outer one has four equal fasciae inclined slightly backward, beneath a narrow perpendicular fascia, all with quirked edges.[79] This was probably true of the façade also, as originally constructed. Its present condition, however, shows an architrave, also dilithic, with an inner member treated precisely as the outer of each pair on the sides and rear, and an outer one carved with a broad band below three narrow fasciae, decreasing upwards. The broad band is decorated with a continuous pattern of oblique squares with rosettes in the centers and pellets in the angles,[80] a *motif* that occurs in the Temple of Dionysos at Pergamon, of the III Cent. B.C.[81]

Doubtless in the rebuilding, the old outer half of the architrave was used for the inner half, and an entirely new outer member substituted for the old.[82] When this reconstruction took place, we, of course, lacking inscriptions, cannot tell. Yet if we judge from the capitals of the façade which, while necessarily copying the older ones in design, by their height may point to a Nabataean influence, it must have taken place before 40 A.D. when the Hauran came under Roman sway. This would also seem to be the case judging by the curious ornamental projecting course above the architrave, with a filleted cyma recta on the inner face and panels on the soffit of the overhanging portion, decorated geometrically, which is no more Roman than Greek.

The mouldings and ornaments of the portal jambs are almost all Oriental. Only an ovolo with egg and dart and a bead recall the Greek. In the niches that flank the door the same is true, though the cyma reversa also occurs. But while both the Classic and the Oriental appear in the profiles and in the decoration, the use of the niche itself as an ornamental feature is purely Eastern.[83] Strzygowski has discussed its origin[84] and regards its use in Syrian temples as a translation from earlier brick constructions in the East. The non-Greek character of the niches here is further shown by their "raking cornices" that do not terminate upon the cornice proper or reproduce its profiles. Of very different inspiration

and execution are the "raking cornices" above the niches of the peribolos wall from the Temple of Aphrodite at Aphrodisias.[85] The "raking cornices" at Suweda are carved in relief on the single block which stands above the crowning mouldings of the niche itself.[86] The upper corners of this block are notched out to fit the courses of the wall. On its face in the "pediment" is an eight-lobed disk, an Eastern ornament precisely like those found by Mr. Doughty far to the south of Petra.[87] This triangular decoration may not be derived from the form of the Greek pediment, but from the zig-zag or triangle ornament so common on façades in the East.[88] This same *motif,* more fully developed in a later period, dominates the great frieze of Mshatta.[89] There is no feeling for a "pedimental" crowning of the niche; for later, when the arch is introduced, as in the temple at Atil,[90] the termination of the niche is also a niche.[91]

It is interesting to notice also that the lower edge of the "tympanum" block is cut away in the center, thus forming what is a very early example in Syria of a flat relieving arch.

SI

Temple of Baal Samin, 33/32-13/12 B.C.[92] A very complete discussion of the fragments from this place and of the periods to which they belong has been given by Mr. Butler;[93] the dating has been discussed by Fr. Savignac[94] and by Dr. Littmann.[95] Of interest to us are only those details of the second period, with mixed Classic and Oriental elements, in which was placed the Temple at Suweda by the analogy of its forms.[96] In this period Mr. Butler has placed the temple base mould, the two columns of the porch, the architrave decorated with oblique squares, and the details of the peribolos colonnade. The base mould is unclassic. The columns in the porch have capitals very like those at Suweda[97] to which we refer for the question of origin.

The development of the leaves to the acanthus form in the examples from Si would seem to show that a classic influence was felt even in the older examples, in spite of their Oriental form. Just such an influence must have been that which produced the capitals[98] of the peribolos which is walled.[99] The influence of the Doric and Ionic orders is evident, and the forms under discussion have been well named "Nabataean" transla-

tions.[100] It is interesting to see that in the case of the "Ionic" the borrowing was evidently made from a capital of the "Hermogenes" type,[101] as we should naturally expect. The architrave, decorated with oblique squares, has been sufficiently discussed under the Temple at Suweda, which see. The leaves above the bases of the Nabataean "Ionic" columns of the peribolos and those from the temple itself[102] recall very strongly the examples from Suweda, although the base leaves in the peribolos are not inverted. In both however the acanthus appears, a stronger classic manifestation, as in the leaves of the temple capitals. Of greater interest to us is the adjoining building, the so-called Temple of Dushara.

The Temple of Dushara. This monument whose complete publication has appeared in the Publications of the Princeton University Archaeological Expedition to Syria[103] had previously been described by its discoverer, Mr. Howard Crosby Butler, in the Florilegium Melchior de Vogue.[104]

In plan, as well as in execution of details, there is little that is classic about the temple. As in the Temple of Baal Samin there is a suggestion of the Corinthian order in the foliate capital and in the entablature with its three divisions, besides the addition here of an Attic base. The capital, with its great acanthus leaves, is only another of the "Nabataean" type[105] that we have seen in one form or another with more or less influence of the Corinthian, at Arak il-Emir, at Suweda, and at the nearby Temple of Baal Samin. Still the Oriental character predominates, and it is just this that makes the suggested dating, between 33/32-13/12 B.C. and about 30 A.D. the only possible one.[106] Were the temple earlier, the style would be overwhelmingly classic, as in the Tomb of Hamrath; or, also, if later, as in the temples at Atil and Kanawat. Such a preponderance of Oriental forms, with a slight infusion of the classic, as shown in this monument, can belong only to the third architectural period in the Hauran. This begins with the rule of Herod the Great in 23 B.C. and lasts until nearly the end of the first century. And the inscription, mentioning Philip the Tetrarch[107] gives a *terminus ad quem* of about 30 A.D.

The date of the temple is all the more important because of a feature of the very greatest interest, namely the arched entablature. It is impossible to doubt the correctness of Mr. Butler's restoration, based on existing fragments, which furnishes us with the earliest known example of this construction.

Without attempting to go into the question of the arch and its origins, it is of great importance here to recognize the existence of examples in Hellenistic architecture from which the Syrians could have borrowed it, along with the other classical forms, if they did not take it directly from the East.

The principle of the arch was recognized and used in Asia Minor before any possibility of an influence from Rome. At Priene, both the great city gates have vaulted entrances which have been asserted to be surely fourth century work.[108] In the podium of the Propylaea of Samothrace,[109] built by Ptolemy II, 285-247 B.C., is an arched passage. At Pergamon the construction of barrel vaults, and the transition from them to cross vaults, built of regularly cut stones, had reached a high degree of perfection as early as the third, or certainly as the second, century B.C.[110] And the work of an Attalid at Athens, in the stoa of Eumenes II, 197-159 B.C., is a series of arches constructed of voussoirs of cut stone.[111] At Priene, again, in the assembly hall, dating from about 200 B.C.,[112] there is an arched window; and the agora door, of about 150 B.C., has an arch with profiled voussoirs.[113] The stones of a similarly profiled archivolt have been found in the ephebeion of the gymnasium, II Cent. B.C. They belonged to the arch of a vaulted statue niche in the wall, flanked by an entablature supported by Corinthian half columns. In the restoration of this in the Priene publication[114] we may see the prototype of the arched central intercolumniation which now concerns us.

Strzygowski has said that while the door arch in itself was native in Mesopotamia, its use upon columns was first carried out in Hellenistic times, perhaps in Seleucia on Tigris.[115] Undoubtedly the door arch originated in Mesopotamia and from there it must have come to the Greeks of Asia Minor. But it is from the latter, rather, that the Greek architects in Syria borrowed it. For, otherwise, had they taken it directly from the East, it would be the only instance in Syrian architecture of an Oriental *form* with Greek *decoration.* Of direct borrowing from the East there are scores of examples, but always in the guise of an Oriental *decoration* that is placed upon a Hellenistic *form.* No better instance could be cited than this temple of Dushara, with its bare outline of the Corinthian order and three part entablature, executed in thoroughly Oriental manner.

Strzygowski has also said that the arching of the entablature was artistic rather than constructive.[116] He contradicts R. von

Schneider who believes that its introduction was due to a central intercolumniation too wide for the horizontal architrave.[117] In support of this he cites various examples in which the intercolumniation that was arched is narrower than the rest.[118] But, of his examples, the only one that is earlier than the third century A.D. is not Eastern, but the Purgatorium of the Isis temenos at Pompeii[119] and here the arching is the heading of a niche and the date is the time of Nero. Now the latter is antedated by the Temple of Dushara, and in the Hauran there is another instance of arched entablature dating from the second century and probably three others. Furthermore in all of these the central intercolumniation is not only broader than the rest, but in two of the cases whose dates are not certain, it is so broad that it could be spanned only by an arch.[120] For convenience a list of the Syrian examples with their dates is added here.

Si	Temple of Dushara[121]	33 B.C.—30 A.D.
Atil	Temple[122]	151 A.D.
Kanawat	Temple of Zeus[123]	II Cent. A.D.
"	Temple of Helios ?[124]	" "
Is-Sanamen	Tychaion[125]	191 A.D.
Damascus	Propylaea[126]	Antonine
Djerash	Propylaea[127]	150 A.D.
Amman	Propylaea[128]	Antonine

SERMEDA

We turn now to the first of the three monuments of Northern Central Syria that we shall consider. The architectural history of the monuments of classic style in this section of the country is summed up by Mr. Butler.[129]

The first dated monument—leaving Palmyra for special attention—is at Sermeda, on the north-east slope of the Djebel Halakah, between Antioch and Aleppo.

Bicolumnar Monument.[130] Excavations at Telloh and Niffer seem to point to an Eastern origin for the erection of individual columns, and in Solomon's temple occurs an early instance of twin columns with symbolic meaning.[131] In Greece we have Pausanias as authority for their early use in marking graves,[132] but the use of *two* columns above a tomb seems to have arisen in Syria. In the north several pairs occur at Sesonk[133] while at Kara Kush they stand singly, in pairs, or grouped by threes.[134]

The date of the pair at Sermeda is between 132 and 141 A.D.[135] "The mouldings of the basement, the details of the Corinthian capitals, are pure in style and refined in execution."[136] Judging by the drawing of M. de Vogue and the photograph of Mr. Butler, the columns, which are unfluted[137] are about eight and one half diameters high, and the capitals one. The section of entablature joining the shafts at about two thirds of their height, is perhaps an adaptation to twin columns of the console brackets on the shafts of colonnades and temples, as at Palmyra and elsewhere.

ATIL

Temple[138] 151 A.D. At Atil, on the west slope of the Djebel Hauran, are two temples. For our material we shall consider only the western one which is dated.[139] It is a monument of special interest not only because of the arched entablature, but also because the podium has arches within that support the cella floor.

This use of arches is not surprising considering the extended use of the arch that we have noticed in discussing the Temple of Dushara at Si.[140] Among the examples there cited, it will be remembered, was an arched passage in the podium of the Propylaea of Samothrace, III Cent. B.C.[141] Just such an arched construction as this at Atil occurs in the podium of the Temple of Helios? at Kanawat,[142] in the Temple of Artemis at Djerash[143] whose foundations are vaulted[144] and in the Temple of Zeus at Aizanoi.[145]

The Corinthian order of the columns is pure. The capitals but very slightly exceed one diameter in height, and the form of the leaves is Greek.[146] A console projected from each column and anta at about one half the height. These, doubtless, were to carry statues, after the Syrian fashion as at Palmyra.[147]

The architrave was decorated with the Greek fret and rosettes, which were very popular in Syria. No cornice fragments have been found, but over the central intercolumniation, the architrave, and the frieze with its ornament of leaf scrolls in relief, were arched.[148] The two pairs of panels, flanking the door, were decorated with rinceaux, the inner with the grape vine[149] and the outer with acanthus. Evidently the Oriental ornament, so common in the earlier monuments, had not wholly disappeared. Between these panels are quarter columns, where the wall is slightly broken out. These are fluted, the only in-

stance of this that we shall find in the Hauran except the columns decorating the gateway of the outermost court at Si.

Further Oriental treatment comes in the decoration of the niches that stand between the panels and the outer pilasters.[150] The maeander and rosettes that ornament the panels of the lower niches are *sui generis.* The upper niches end in conches below the jambs which are carried over in an arch, and decorated with a most individual treatment of the guilloche.

The niches are in pairs, one above the other. The upper of these terminate in a conch, framed by the arching of the jambs. The conch, as Strzygowski has observed[151] is thoroughly Eastern and a natural step in the evolution of the niche as wall decoration which first appears translated from brick into stone in the temples and nymphaea of Syria and Asia Minor.[152] Furthermore the placing of the conch with lines radiating upwards, as here and in all other examples we shall quote, is Eastern, as has been pointed out by Wiegand.[153]

So far as we can judge this is the earliest example in Syrian architecture of the conch. It represents a development in the use of the niche parallel to the arching of the entablature. This is an evidence of growth in the Hellenistic architecture in the East that was continuous and whose continuity was maintained by fresh infusions from the Orient.

SITT-UR-RUM

Tomb of Eisidotos. Another bicolumnar monument, dated 152 A.D.,[154] is our second monument from Northern Central Syria. This is of even greater severity than that at Sermeda. The simple mouldings that form the caps of the quadrangular shafts, and the profile of the connecting entablature, are most un-Roman. The pointed niches on the faces of the shafts recall the deeper ones on the column to Tiberius Claudius Sòsandros at Bshindelaya.[155]

BURDJ BAKIRHA

Temple. The tetrastyle, prostyle temple, called Burdj Bakirha, on the north slope of the Djebel Barisha in Northern Central Syria, dates from 161 A.D.,[156] and is one of the very few monuments to show any Roman influence. Yet this influence is neither strong nor consistent, as study of the details will prove.

In the plan[157] the depth of the pronaos is hardly Greek, yet a Roman temple would have one or more columns "on the return."[158] Furthermore there is no podium. In the elevation the pedestals beneath the column bases and the proportions of the pediment, about 1:4.31, seem very Roman; yet the wide spacing of the pilasters on the sides and rear is not. In the Maison Carrée at Nîmes, engaged columns, performing the same function, are much more closely spaced; so too in the temple of Fortuna Virilis, so Hellenistic in its architecture, which would tend to show that this exceptionally wide spacing is not only not Roman but also not Greek. Actually the pilasters are placed so as to emphasize on the exterior the presence of an "adyton" within the cella. The distance from the pilaster, thus marking the interior division, to either end of the cella wall is such that it is impossible that there was once a series of pilasters evenly spaced.

Notice has been called to the fact that an adyton is usually to be found in a Syrian temple.[159] The principal examples are in the—

Temple at Burdj Bakirha	161 A.D.[160]
Temple of Zeus at Kanawat	Antonine[161]
So-called Jupiter T., Baalbec	Antonine[162]
Temple of Artemis at Djerash	Antonine[163]
Tychaion at Is-Sanamen	191 A.D.[164]

Although at an early period in Greek architecture such a "locus templi secretior ad quem nulli est aditus nisi sacerdoti"[165] was not unusual[166] it soon disappeared and is not found in the later periods or at Rome. Its origin has been referred to an Oriental source[167] and its occurrence would seem to depend upon the presence of certain strong Oriental influence. If so, it is less surprising to find it lacking in the Hellenistic work in Asia Minor, which is probably the cause of its absence in the earlier Hellenistic buildings in Syria. It may be that its sudden appearance in Syria was due to some sudden change in cult.[168]

The example at Burdj Bakirha is very simple. A wall, pierced by a doorway, shuts off a part of the cella. But it has not been possible to excavate sufficiently to determine whether there were not side chambers also, forming a three fold division of the cella, as in all but one of the later examples. At Djerash, in the Temple of Artemis the adyton is an extremely small

compartment, between two stairways, and separated from the cella by an arch springing from the ends of the stair walls.[169] In the Temple of Zeus at Kanawat[170] the construction is very similar. However in this case the chambers which flank the adyton do not seem to have contained stairs. They give rather the effect of the plan of the Pretorium at Musmiyeh,[171] and of the Tychaion at Is-Sanamen[172] and the division of the "nave" of the cella by two rows of columns and the construction of the roofing, as restored by Mr. Butler, increase the similarity to the Syrian Christian basilica plan. The most developed type is in the so-called Jupiter Temple at Baalbec.[173] Here the side chambers are separated from the adyton only by columns and the whole sanctuary is raised seven steps above the rest of the cella. As the foundations of the cella are vaulted a "crypt" is thus formed.

Mr. Butler has called attention to the similarity between such a plan, in the Tychaion at Is-Sanamen, and that of many Christian churches in Syria.[174] Sufficient evidence is available to develop this theory of the origin of the plan of the Syrian Christian basilica, but that lies beyond the field of this discussion and is in process of publication elsewhere.

Returning to the discussion of the Temple at Burdj Bakirha, the capitals, according to Mr. Butler, are a little taller than the Roman type.[175] Yet judging from his restoration they but slightly exceed the lower diameter in height.

The details of decoration, or their absence, however, are certainly Greek, not only from their purity and simplicity, but also from the restraint that the builders showed. There is not a trace of that profusion of elaborate ornamentation that characterizes Roman work of the same period, as for example, the highly decorated frieze of the Temple of Antoninus and Faustina.[176]

The capitals of the columns which are unfluted,[177] exhibit a very elegant treatment of the Corinthian order.[178] Those of the pilasters, consisting of a row of four stiff acanthus leaves, curling slightly over beneath an egg and dart echinus moulding, are very beautiful, and of a type found nowhere in Rome. A similar use of an egg and dart echinus, placed above a palmette on a cymation, is found on the capitals of the interior columns from the altar hall of the precinct of Artemis at Magnesia.[179]

The substitution for the frieze of a narrow flat band is in keeping with the restraint shown in the whole monument. The

only sculptured decoration of the entablature, apart from the dentils, is a series of bucrania and garlands, relieved on a deep cyma recta that replaces the corona. As bucrania are found as early as the III Cent. B.C.[180] on both the Arsinoeion[181] and Ptolemaion[182] at Samothrace, and then a more developed form with the skulls joined by garlands on the frieze of the temenos of Artemis at Magnesia[183] and on the portico of Athena Polias at Pergamon[184] the origin of this *motif* must be put in the Hellenistic East, not at Rome.[185]

In the second of the three courses of the western pediment an eagle appears in high relief, a figure found with much attendant decoration on the soffit of the cella door of the Bel Temple at Palmyra.

MUSHENNEF

Temple.[186] At Mushennef in the Hauran, on the other side of the great plateau from Atil, is a temple whose remains resemble, in many ways, that at the latter place. It is assigned to the period of the Antonines by Mr. Butler[187] from an inscription found nearby,[188] and from a comparison with the temple at Atil. There seems to have been a peribolos as early as 41 A.D.[188]

The plan,[189] distyle in antis, is very simple. The temple is raised upon a podium, lower than that at Atil, projecting farther beyond the cella walls, and with a more elaborate cap moulding. At the four corners of the cella are pilasters, as at Burdj Bakirha, with Corinthian caps, the leaves[190] showing the "V" section of Greek workmanship. The base mould of the antae is Attic. The upper torus is carved with bay leaves, the scotia with deep perpendicular grooves, and the lower torus with a guilloche. Both the bay leaf[191] and the guilloche[192] recall some of the most beautiful of earlier examples. The column bases are Attic, undecorated, and the shafts unfluted.[193] The capitals, unlike the antae caps, are of the type called composite. For a better understanding of this type it will be well to look a little more closely than has been done into its origin and development. The skeleton of the theory has already been formed in a History of Architecture.[194] To this may now be added more examples and from it further conclusions may be drawn.

At Naukratis in the Temple of Apollo, a fragment of anthemion necking was found[195] which is nothing else than a pro-

totype of the developed capital of the Erectheion.[196] Some one, feeling that the regular Ionic capital was not high enough to give a sufficiently dignified conclusion to the shaft, added the ornamental necking. A stiff Roman translation of this type is now in the Lateran Museum.[197] The next natural step in development would be a form in which the necking would cease to exist as such, and would become an integral part of the capital. An example of this is the little known "anthemion-composite" capital of the theatre at Laodicea.[198] Here all the forms of the Ionic capital are retained, and that joining of the volutes by a horizontal fillet which is a characteristic of the "Hermogenes" capital, arising in Asia Minor[199] and carried from there to Rome.[200] The necking, which is now part of the capital above a fully developed astragal, is generally like that of the Erectheion,[201] but simpler in execution. Instead of continuous scrolls from which the palmette grows, these are acanthus calices, so that we naturally expect the next step in the development to be the entire replacing of anthemion by acanthus, as in the capitals of the columns in antis of the Zeus Temple at Aizanoi.[202] It is fortunate that this temple can be dated, as of the time of Hadrian,[203] for a comparison of the forms of the entablature with those of the Laodicea theatre will clearly show that the theatre is the earlier.[204] In every way its forms are more simple and more severe. The fasciae of the architrave are not edged with the bead and reel, nor is the architrave's crowning member decorated with the anthemion. The temple has modillions, the theatre has not; and the cymation of the theatre has a much simpler ornament. The decoration of the fillet, joining the volutes of the temple capitals, is very similar to that on the capitals of the Ptolemaion of Samothrace, III Cent. B.C.[205] That this Aizanoi example is one of the earliest instances of the use of the acanthus composite capital is supported by the fact that in the theatre at the same place, whose forms are later than those of the temple, the capital has rinceaux of acanthus between the echinus and the astragal.[206] Furthermore, in the Temple at Aizanoi the composite capitals are used in company with the Ionic. The type then was not yet fixed as a form, but it must have been popular enough to develop rapidly. For, at Myra, the theatre[207] which was restored in 155-156 A.D.[208] has capitals with two rows of acanthus leaves. The feeling that this form was akin to the Corinthian capital is manifested by the use of an acanthus leaf

as "flos" on the abacus. Corinthian too are the tendrils that turn inward just below the echinus, as the inner volutes of the Corinthian capital. This developed form, with a double row of acanthus leaves, an acanthus as "flos," and returning central tendrils, is the predominant type found at Rome. However, in the Roman examples, in the earliest, on the Arch of Titus[209] and in all others, the fillet joining the volutes is always raised upon the cavetto of the abacus, obscuring that member, and reducing its architectural significance, or else it disappears altogether.[210] Again, in the capitals of the Titus Arch, the Arch of Septimius Severus,[211] the Baths of Caracalla[212] and of Diocletian,[213] a carved leaf decoration extends both ways from the "flos" along the fillet connecting the volutes, and fills the *canalis* of the latter. Neither of these characteristics ever occurs in the Asia Minor examples, where the purity and proper function of the elements of the Ionic capital are maintained. Now the significance of this is that at Laodicea, Aizanoi and Myra occur stages in the development of the composite form that are peculiar to the East, and which we shall find later, in Syria, at Dmer.[214] At Mushennef we find a distinct type, equally foreign to that of the West at this time. Here the form shows a stronger feeling of kinship to the Corinthian. For the volutes are undoubtedly those of the Corinthian order, rising at the corners of the bell. The capital is composite only because the egg and dart has been added above the second row of acanthus. Not unexpected, but quite natural is this in a country where the preponderance of the Corinthian is so overwhelming as to be practically exclusive. And in this instance the composite is a timid variant at best, for the pilaster caps are of the regular Greek Corinthian form.

The architrave of the temple, decorated with maeander and rosettes, shows that the revival of classic art at this time was not complete. Yet the frieze shows an excellent classic design, a scroll of slender acanthus and delicate flowers, capped by a heavy egg and dart.

KANAWAT

It is unfortunate that there is no direct evidence for the dating of the two temples at Kanawat in the Hauran. Inscriptions that have been found there from the reigns of Hadrian,[215] Marcus Aurelius,[216] and Commodus,[217] indicate that the temples belong about the end of the II Century. Since at this

period there was no such marked architectural development as there was in the earlier periods in the Hauran, it is possible to give them only a very approximate date.[218]

Temple of Zeus.[219] The plan of the cella shows two rows of interior columns and a chamber in each of the corners. Those at the rear flank the adyton, separated from the rest of the cella by an arch, an arrangement very similar to that in the Artemis Temple at Djerash.[220] The niches in the chamber walls flanking the adyton arch, and the two, one above the other, in each of the anta walls, are all rectangular and, as the doorway, flanked by mouldings, without any ornamentation. The revised plan shows the cella triply divided by rows of columns. The significance of this in conjunction with the adyton has already been noted.[221]

The Attic column bases, above low panelled plinths, are carved with guilloche and bay leaf, as in the second Temple of Helios?, and at Mushennef.[222] The shafts of both temples show marked entasis; they are, of course, unfluted, as everywhere in the Hauran. The capitals[223] have a height of but 1.03 lower diameters. The width of the central intercolumniation, about 5 meters, seems to indicate an arched entablature. This is upheld by a fragment of architrave, still *in situ,* with the bands of the face carried round the end.

Temple of Helios?[224] The plan shows seven columns in the rear, as in the peripteral temple at Suweda.[225] The interior of the podium was built up with arches covered by slabs.[226] The treatment of the podium wall, broken out into shallow pilasters below the columns, recalls that on the North and Middle Temples in the Forum Holitorium at Rome. This treatment Delbrueck refers to Hellenistic influence from Asia Minor.[227]

The columns stand upon pedestals that are only paralleled by those beneath the two central columns at the entrance of the so-called Diocletian Basilica at Palmyra.[228] Behind the ruins are fragments of a large conch which may have covered an apse at the end of the cella.

DMER

Temple?[229] A study of the architecture of Syria, especially from the fourth century on, shows a development to forms most strikingly "Romanesque." The Temple? at Dmer in the Hauran, dated 245 A.D. by an inscription of Philip the Arab,[230]

shows the beginning of this evolution, still under the influence of the Hellenistic style. Dmer, on the site of ancient Admedera, lies to the east of Damascus. The building under discussion has been fully published by Mr. Butler.

The plan,[231] so far as Syria is concerned, is unique. The recessed portal, flanked by "tower-like chambers," suggests the portal of the Temple of Baal Samin at Si.[232] The Syrian Hellenistic forms are more or less retained in the pilasters, the entablature, the gable front, and the portal arch.

The capitals of the pilasters are of the composite order. A careful examination of the photograph[233] from which the illustration on page 402 of Mr. Butler's work was made, shows that they follow the Asia Minor-Hellenistic form,[234] although the leaves are uncut. The abacus is left free without any intrusion of the fillet that joins the volutes. The latter are of the Ionic form as found in the Aizanoi type, and not the Corinthian volutes as found at Mushennef.

The portal arch is heavier than any that we have seen, and its mouldings are returned across the capitals of the piers, as in the later churches.[235] The hood moulding above the profiled archivolt and the cornices show the earliest instances of consoles in the Hauran. It is interesting to note that, according to Delbrueck, the console cornice, as used at Rome, probably goes back to a Syrian origin.[236] Above the narrow pulvinated frieze is a plain band that might have been carved with dentils, which are found on the entablature within the cella. The whole entablature is broken out "en ressaut" above each pilaster; earlier instances of this in Syria are the Propylaea at Djerash[237] and at Amman,[237] both Antonine, and the central triumphal arch at Bosra.[238] The pilasters within the cella have caps "of good Corinthian style."[239] Unfortunately they are not illustrated in the publication. The roofing, according to Mr. Butler, seems to have been of wood.[239]

To sum up then: in this monument, dated 200 years after Herod Agrippa I became the Roman representative in the Hauran, there are still strong indications of the Hellenistic architecture that Syria held throughout her length and breadth. Of Roman influence, as in plan, or in florid decoration that prevailed at this time,[240] there are no traces, except possibly the treatment of the entablature "en ressaut."[241] On the other hand, there are even more than the beginnings of the new step in architectural development that was to reach fullness in the

next three centuries. At the time when the Hellenistic influence finally waned, when, if ever, we might expect the influence of Rome, it is not the Imperial architecture of Italy that appears in this distant province, but an independent native development, growing out of the foundations that were laid in the continuous survival of Hellenistic forms, decoration, and construction. And finally, there was such power in the artistic spirit that it was able to anticipate the Occident, in its constructions, by nearly half a century.

PALMYRA

Note. In treating the monuments of Palmyra it has been necessary to go into detail even more than in the case of the rest of Syria. In spite of the magnificence of the ruins there is but one publication, that of Wood. While his plates, especially with his restorations, are not always trustworthy, and the cross-references leave much to be desired, only the highest praise can be given to so magnificent a work, accomplished under such difficulties and long before archaeology as a science was born. Of the work of E. Berthone in Palmyra during the summer of 1895 only a preliminary report has been published, by E. Guillaume in the *Revue des Deux Mondes,* CXLII, 1897, and a report on the inscriptions by Chabot in the *Journal Asiatique,* XII(I), 1898. Reference will also be made to the skeleton report of the German Expedition excavating at Baalbec.

It will be noticed that the spelling "Bel" has been retained in the great temple. This has been done both out of deference to Wood and also to avoid confusion with the eastern and smaller temple of Baal or Baal Samin.

BEL TEMPLE AND PERIBOLOS

The Temple of Bel. The oldest parts of the temple[242] are the cella walls that run north and south, and the peristyle. The plan of the cella must have been originally of Greek form. Its proportions are classic, as those of the peristyle, with eight columns at front and back, and fifteen on the sides. The present form of the cella, with a side entrance and windows in the side walls,[243] and the walling up of pronaos and epinaos, is due to an alteration.[244] Had the intention been, at the time the peristyle was built, to provide a side entrance, the columns

would not have been so disposed that one occurred directly opposite the middle of the cella wall. As it was, when the change was made, one column had to be removed from the flank to provide an entrance which was necessarily "off center." That this was felt to be a necessity, and was not a choice, is clearly shown by the position of the windows in the eastern cella wall. Unhampered by the necessary position of an entrance, they are spaced symmetrically. It may be noted here that the exedrae at either end of the cella, marked A and B in the plan, were not a part of the original plan, and, when introduced, did not serve as adyta as Puchstein has asserted.[245] An examination of the photograph of the American Archaeological Expedition[246] will show this, for the central compartment is only a vestibule, with side chambers opening out of it. Further examination will show the patched and hasty character of the construction. At the sides of the doors the decoration above the pediments of the slender niches is not the same, and above them are placed massive pilaster bases, probably taken from the old west wall of the peribolos when it was rebuilt in 175 A.D?[247] or else, and this is more probable, during the repairs after the sack by Aurelian in 273. The florid ornamentation of the ceilings of the vestibules also points to a late date for their construction.[248]

We must now leave the temple for a moment and turn to the peribolos, where we have our first definite evidence for date.

The Peribolos. The epigraphical evidence for the dating of the peribolos is as follows. For convenience reference will be made to the inscriptions by number, and they are arranged in chronological order. Those called bilingual have both Greek and Palmyrene text.

No. 1 10 A.D.=321 Seleucid Era. Bilingual, found, with No. 2 on a stone, in the interior of the temenos, by Prince Abamelek Lazarew. Published by M. de Vogue.[249] The purpose of the stone is not clear. Dr. Littmann has suggested[250] that it was placed under a niche in the temple wall.

No. 2 17 A.D.=328 Sel. Bilingual, on same stone as above.[251]

No. 3 21 A.D.=333 Sel. Palmyrene. *In situ* on column bracket of temenos portico,[252] published by Euting.[253]

No. 4 28/29 A.D.=340 Sel. Palmyrene. *In situ* on bracket of column number four from north end of eastern

portico. Discovered, together with No. 5, by Littmann, and published in AAES IV.[254]

No. 5 70/71 A.D.=382 Sel.[255] Bilingual.[256] *In situ* on bracket of column number three from north end of eastern portico, and second to the south from No. 3.

No. 6 108 A.D.=420 Sel.[257] Bilingual. *In situ* on bracket of column number ten from west end of southern portico.

No. 7 118 A.D.=429 Sel. Palmyrene.[258] *In situ* on bracket of column number twenty one from west end of southern portico.

No. 8 127 A.D.=439 Sel. Bilingual.[259] *In situ* on bracket of column in southern portico.

No. 9 142 A.D.=453 Sel. Greek. *In situ* on bracket of column in portico, discovered by Wood.[260]

No. 10 167/168 A.D.=479 Sel. Greek. *In situ* on bracket of column in portico, discovered by Wood.[261]

No. 11 175 A.D.=486 Sel. Bilingual. "In middle of southern side wall of propylaea."[262]

Note A.—Puchstein also mentions an inscription of 150 A.D.[263]

Note B.—Littmann has mentioned the inscriptions No. 1 and No. 2 of de Vogue[264] as belonging to the temple.[265] This is incorrect. The description given by de Vogue, "sur une grande colonne isolée *au nord* du temple du Soleil" and "sur une grande colonne renversée, qui faisait pendante à la précédente, *au sud-ouest* du temple," do not indicate that these columns were in the temenos. On the contrary they stood at some distance, as is proved by the fact that the Greek text of No. 2 is identical with that of Wood, *op. cit.,* Marmor. Palm. XXI, which he found on the isolated column, marked 30 in the plan, Tab. II, at a distance of over a quarter mile from the peribolos. The two columns that bore the inscriptions in question were those marked 28 and 30, respectively, in the same plan, and, if Wood's plan is trustworthy, were equidistant from the temple itself.

Note C.—It has been suggested by Mr. H. C. Butler that there may be reason to believe that Wood was wrong, that de Vogue followed him, and that Littmann is correct. It is unfortunately impossible to verify this at present.

The Peribolos, con.[266] The idea of a walled peribolos goes back to an early Egyptian origin.[267] Later on in Greece there are various instances of enclosures of sacred sites,[268] but they

contain more than one shrine. Such are the "altis" at Olympia[269] and the peribolos of the Olympieion at Athens.[270]

In the Hellenistic East, however, a single temple is frequently surrounded by a walled peribolos. This is the case with the Temple of Baal Samin at Si,[271] the Temple of Jupiter at Aizanoi,[272] the Artemis Temple at Djerash[273] and the Temple of Aphrodite at Aphrodisias.[274] At Amman there are remains of a great peribolos upon the acropolis,[275] but the building within is completely ruined. Holtzinger[276] adds the '"sun temple" at Baalbec, a statement not confirmed by the report of the German Expedition[277] unless he considers the enclosed court *in front* of the temple a peribolos. He lists also a temple at Djemila in Algiers.[278]

In the West, on the other hand, instances are rare. At Pompeii, the Temple of Apollo with its peribolos[279] dates from the Tufa period[280] of "untrammeled Hellenistic influence."[281] At Rome there are but two examples of a walled peribolos. That of the Portico of the Argonauts[282] about the Temple of Neptune, was built in 25 B.C.[283] At the time of the Saturnalia it served as a bazaar.[284] This and the testimony of ancient writers[285] concerning the other example, the Portico of the Danaids[286] about the Temple of Apollo on the Palatine, finished in 26 B.C.,[287] substantiate Lanciani's observation as to their mundane character.[288]

It is necessary to add the examples of the Iseum et Serapeum,[289] in direct imitation of Egypt, and Aurelian's Temple of the Sun[290] with its Syrian prototypes. All other instances of temple enclosures in Rome are simply open colonnades without walls,[291] another case of Rome's altered treatment of an idea borrowed from the East. It is well worth noting that the earliest one of these, that about the temples of Jupiter Stator and of Juno Regina, was built by a Greek architect, Hermodorus of Salamis, in 149 B.C.[292]

The Peribolos Wall. The exterior of the peribolos wall[293] was broken by pilasters, evenly spaced and carrying a complete entablature. Between each of these, on the north, south, and east, were windows, crowned by a gable.[294] The western front was built much higher and the spaces between the pilasters were left quite plain.[295] This construction was continued on the north and south for about seventy feet.[296] On the interior of the peribolos the west side has a single colonnade. On the other three sides the portico had a double row of columns.

The porch of the entrance at the west had been destroyed before Wood made his drawings.[297] Of his fourth plate, then, we may consider only the wall in its entirety, and its decorations.

The interior of the wall on the north, south, and east is precisely like the exterior.[298] That of the western wall, however, and of its continuations on the north and south, has a double row of niches.[299]

The Peribolos Colonnades. It is unfortunate that we have no detailed illustration of the order of the columns on the north, south, and east. Nor can we judge by the analogy of the pilasters on the outside of the wall which was undoubtedly built at the same time. For, here again, our illustrations fail us, except on a very small scale.[300] Still we can judge from this of the severity of the decoration which is carried out in the windows, of trapezoidal form, crowned by gables with raking cornices.[301] In striking contrast to these are the decorations of the entrance in the west wall, a double row of niches and doors, some with profiled archivolts, conches,[302] and elaborately carved mouldings,[303] an essentially Eastern scheme.[304] The frieze of the north, south and east walls, both inside and out, seems to have been undecorated.[305] While this was copied on the exterior of the new west front,[306] on the interior there was an entablature very characteristic of the middle of the second century.[307]

Puchstein, on the evidence of the inscriptions, that we have numbered 6, 8 and 9, and the one mentioned in Note A, has admitted that "jedenfalls unter Hadrian schon ein Teil des Peribolos fertig war."[308] We have besides, inscriptions of 21 A.D.,[309] 28/29 A.D.,[310] and 70/71 A.D.[311] These are on consoles that could not have been fastened to the shafts, after use in another location, for each is part of the column drum, or rather, a projection from the drum itself, necessarily a part of the colonnade at the time of erection. From time to time, then, as occasion offered, inscriptions were cut and statues set up, as we shall see in the case of the street colonnades.

The Peribolos, then, must have been erected not later than the beginning of our era,[312] and most probably at the time when the change in the temple cella was made and a door placed between two columns of the peristyle. For, it certainly could not have been built very long before the change in the temple was made so as to have an entrance opposite to the

gate in the western side of the court. This is entirely supported by an examination of the details of the temple alterations, particularly in the case of the mouldings of the door that was set in the middle of the peristyle. The jambs, beginning on the inside, are decorated with three fasciae, each bordered by a fillet. The inner fascia is carved with a continuous laurel or olive leaf ornament, the next with a grape vine,[313] a large leaf alternating with a huge bunch of grapes. The third has rinceaux of a plant not easily identified. Outside of these comes first a cyma recta with the leaf and dart, then an egg and dart on an ovolo, and finally an anthemion on a cavetto.[314]

Now such a combination of Greek and Oriental *motifs* is characteristic of only one architectural period in Syria, the period in which were built the temple at Suweda[315] and those of Baal Samin[316] and Dushara at Si.[317] These are examples from the Hauran, it is true, but it must not be forgotten that after 85 B.C., when the Nabataeans defeated Antiochus XII, they took possession of Damascus and Coele-Syria.[318] Now Palmyra is equally distant from Antioch and the Hauran; so it is not surprising to find traces of this southern influence at this time in the midst of all that the city must have drawn from the Syrian capital.

The great door of the temple enclosure at Si,[319] almost purely Oriental in its ornament, has just such naturalistic forms as this peristyle door of the Temple of Bel. On the archivolt above the door occurs much the same grape vine *motif*, and we find this again on the inner jamb of the door of the Temple of Baal Samin at Si.[320] All this simply confirms our hypothesis that the alterations of the Bel Temple cella took place at the same time as the building of the peribolos, that is, about the beginning of the first century A.D.

The Temple Cella and *Peristyle.* Still older than the oldest parts of the peribolos are the cella and peristyle of the temple.[321] The capitals have unfortunately long since lost their decoration. For, as the holes in the bells show, this was of metal, fastened to an inverted, truncated, cone shaped core. Perhaps this same use of metal occured in the interior of the temple cella at Djerash, called Bet et-Tai.[322] The decoration of the entablature is severe for the Hellenistic period. The ornament of the frieze is a succession of garlands held by winged figures.[323] The proportions of the entablature are very nearly those of the Greek Temple of Vesta at Tivoli, together

with which they are given below, in comparison with those of the Temple of Vespasian at Rome.

	Bel T.	Vesta T.	Vespasian T.
Capital height	1.12	1.00	1.23
Architrave height	0.5	0.53	0.64
Field of frieze	0.5	0.66	0.7
Cornice height	0.62	0.6	0.8
Entablature	1.7	1.7	2.2

The common unit is the lower diameter.

The frieze about the cella was undecorated, and convex in profile,[324] as was also the case in the Temple at Srir of 116 A.D.[325] Friezes with curved profiles occur in Greece as early as the fourth century in the Tholos[326] and in the Theatre[327] at Epidauros. A later example is that from the Theatre at Aizanoi.[328] In Rome, however, instances are rare,[329] the earliest being the pulvinated friezes of the Portico of the Argonauts[330] and of the Temple of Neptune,[331] both dating probably from the restoration under Hadrian.[332]

The Western Peribolos Wall and Entrance. The newest part of all the temple precinct, with the exception of the exedrae in the cella, is the western peribolos wall. We have already mentioned as No. 11, the inscription of 175 A.D. from the western wall. Certainly the forms and ornaments of the entrance are later than any of those we have discussed, and are very similar to others that we have seen belonging to the latter half of the second century.

The plan[333] shows a central intercolumniation of 13′ 4″. It would have been impossible to span this with anything but an arch, as has already been suggested.[334] This is just what might be expected, considering the other examples of arched entablature in Syria.[335] Yet the use of the arch, known in Palmyra at least as early as the beginning of the second century,[336] did not find as ready acceptance and as free use as in the Hauran. The niches at Atil showed a round head with a conch,[337] and at Musmiyeh a full entablature was carried above the conch;[338] but in the niches of Palmyra a horizontal entablature is carried either above or below the archivolt.[339]

We have unfortunately no figures for the lower diameter of the shafts in the colonnade, and lack of photographs on anything like the necessary scale prevents such a discussion of the Corinthian capitals as Wiegand has given to those from Baalbec.[340] On the other hand certain marked distinctions between

the Greek and Roman forms of the Corinthian are well known, and will suffice to show that the capitals of the western peribolos colonnade approach the Greek much more closely than the Roman. The bell of the capital is not completely masked by the volutes and leaves, and the second row of leaves is not twice as high as the first.[341] But a complete masking, with the upper row of leaves double the height of the lower, is characteristic of the Roman form, as shown in the examples from the temples of Mars Ultor,[342] Vespasian,[343] and Castor.[344] Indeed Wood's drawing makes the capitals compare not unfavorably with those from the Olympieion at Athens.[345] The flat section of the leaves shown in his plate must not be considered. In the case of the Jupiter Temple at Baalbec,[346] in the cella capitals, he shows a similarly flat section which the photographic evidence of Puchstein[347] contradicts. Furthermore, Berthone says the acanthus was of the Greek type and not like that at Baalbec.[348] It is interesting to recall, in this connection, Rivoira's statement about Corinthian capitals in the East, assuming them to be, of course, examples of Roman workmanship. He says: "nei tempi anzidetti—128 to 193—i migliori capitelli vogliono esser cercati nella Siria."[349] On the other hand Delbrueck has said that we must reckon with the possibility that the Corinthian order was Syrian.[350]

The frieze above the colonnade has a flat profile.[351] That on the peribolos wall is convex,[352] and is ornamented with acanthus rinceaux. Yet, even if erected in 175, the acanthus does not occur with stalk completely covered by leaves, as at Rome in the Trajan Forum,[353] and later in the "Frontispiece of Nero."[354] Again, in the palmettes of the sima, we find the distinction from purely Roman types. They have not the leaves sharply pointed at the ends that the architecture of Rome shows,[355] as, for example, in the Trajan Forum[356] and the Agrippa Baths,[357] but leaves with their ends rolled over in a flat, snail-like form. This is the universal form at Palmyra, and of very great frequency.[358]

Summary. We have, then, four periods of architectural activity on the site of the Bel Temple.

I. Not later than end of first century, B.C.
   Temple cella and peristyle.

II. Not later than 21 A.D.
   Rearrangement of cella; addition of door in peristyle and building of peribolos.

III. 175 A.D.

Rebuilding of west wall of peribolos. To this, or perhaps to a *fourth* period under Aurelian, belong the exedrae in the temple cella. The latter are the only remains that can be assigned to this last period. Aurelian's letter to Bassus expressly states that he desired "templum—ad eam formam—quae fuit, reddi"[359] Such repairs as he made then must have consisted chiefly in setting up what had been thrown down in the sack of the city.

TOMBS

In the Wadi il-Kebur, to the south-west of the city, are the remains of many tombs.[360] Two of these have been sufficiently preserved to warrant their publication; that of Iamlichus by de Vogue, and that of Elabelos by Wood.

Tomb of Iamlichus[361] 83 A.D. The date is given by a bilingual inscription.[362] Both this and the following tomb are in the form of a square or rectagular tower.[363] The ornamental details show a strong classic influence. The pilasters between the cubicula of the first storey are Corinthian, as are those of the upper niche of the façade. The door with moulded jambs, crowned by a pediment carried on consoles, is Greek. De Vogue also mentions in his text "sculptured friezes, and coffered ceilings with heads in relief," probably very similar to the carving of the soffit of the side door in the west wall of the peribolos,[364] and to the ceilings[365] in the fully classic sepulchre marked 'W' in Wood's plan.[366] For all such later examples the ceilings of the tomb would be prototypes.

Tomb of Elabelos[367] 103 A.D. This tomb, dated[368] twenty years later than that of Iamlichus, shows a more severe façade, but with a beautifully profiled archivolt spanning the upper niche. The interior has beautifully channeled Corinthian pilasters, crowned by a severe entablature, on the sides; and at the end opposite the door, there is a superimposed order of engaged columns, both with smooth shafts, the lower of Corinthian, and the upper of the Ionic order. The ceiling was coffered in squares, enclosing two reliefs, of Elabelos and his wife.

CROSS COLONNADE

It is unfortunate that in no case have we a photograph of any column from which a particular inscription has been taken.

However, since the consoles on which the inscriptions were cut, are of a piece with the drum of the shaft, it is evident that a colonnade cannot be later than its earliest inscription, especially, as in this case, when there are inscriptions covering a continuous series of years.

The photographs of the American Expedition[369] show part of this colonnade, with Corinthian capitals whose leaves have the crisp Greek section.

A list of all dated inscriptions from the colonnade, complete so far as we know, is added.

de Vogue[370]	Wadd.[371]	C.I.G.	Location	Date
8[372]				129A.D.
9				163
10	2593		first of four standing, with double consoles.	179
11	2594		next to above	179
12	2595		" " "	179
13	2592	4506	" " "	179
19				23-?[373]

EASTERN TEMPLE OF BAAL OR BAAL SAMIN

The inscription on a column of the pronaos, dating the temple,[374] 131 A.D., and also Hadrian's journey to Palmyra, are discussed by de Vogue.[375] It may be added that the space between the first numeral and the "vinculum" of the second numeral is too great for the first figure of the date to be a five; it must therefore have been four, thus giving the year 442 Seleucid era, or 131 A.D.

Another inscription, in very poor preservation, is found on the console of the column at the south-east corner. The date is incomplete; but Lidzbarski, on the basis of other dated inscriptions containing the same name, has restored it as 390 Sel. or 79 A.D.[376] This would not be surprising in view of the character of the architectural details.

The Temple is tetrastyle, prostyle, with one column on the return. Apparently there was no podium. The Attic bases of the unfluted Corinthian shafts rested on low square plinths. The capitals, about 1.1 lower diameters high, have leaves of the crisp Greek section. The entablature is simple. The frieze is carved with acanthus rinceaux, without any projecting heads or other additions. Every detail in fact points to a monument

executed under a purely Hellenistic influence. For example, the tendrils of the acanthus are not wholly encased in leaves, as in the Trajan Forum in Rome.[377] The height of the cornice, about .72 lower diameters, is considerably less than that of Roman examples,[378] and the whole entablature, about 2.14 lower diameters, is relatively low. The mouldings of the two windows, set high in the cella wall, between two of the pilasters that adorn the exterior, are simple. The form of the windows themselves is trapezoidal, as in the early parts of the peribolos wall of the Bel Temple. The architectural style, then, would seem to confirm Lidzbarski's opinion as to the date of the second inscription mentioned above, and the Temple may very well belong to the first century A.D.

THE NYMPHAEUM?

The so-called Diocletian basilica, camp, or headquarters[379] stood just to the north of the entrance of the Wadi il-Kebur, on the very outskirts of the city. Owing to a Latin inscription[380] on a broken architrave of the building, it has always been considered a work of Diocletian' time, despite the striking evidence of the architecture to the contrary.[381]

Among the Palmyrene inscriptions of de Vogue, he gives one[382] "grand édifice ruiné, qui paraît avoir été un temple; au sud-ouest de la grande colonnade. Sur le linteau." Wood's plan of the city shows but one such ruin, namely that of the Diocletian building.[383] To this it may very probably have belonged, and as it was on a lintel, it must have been either from the cella entrance or from the door in the interior. de Vogue translates the inscription as follows: "——the safety of——that of his children, and of his brothers,——in the year 46—,——these——and all its ornamentation, with his money."

It is evident from the language that the building was devoted to a religious use. A man did not erect civil structures for the safety of his family. The date as it stands in the Palmyrene text[384] is 460, which is the year 148/149 of our era. Unfortunately there is a blank after the date, which was probably filled by the name of the month. Yet, even if more figures had originally been cut there, the space available is such that, in the Palmyrene notation, at the maximum, there could not have been more than a twenty, a ten, a five, and four ones, making the highest possible total, 499 Sel. which is 187/188 A.D.

The inscription is doubly important. For it not only confirms the natural conclusions as to the period of the architecture, but also, by its text, helps to determine the character and purpose of the building.

The plan is extraordinary,[385] but the building was too well preserved when Wood examined it to cause any doubt of its accuracy.[386] Were it not for the continuation of the "nave" or cella between the colonnaded wings, it would have a strong resemblance to the basilica at Colonia Iuliae Fanestri, built by Vitruvius.[387] On the other hand, a comparison of the elevations[388] will show still more striking differences. The singular plan would seem to indicate a special temple form such as a Nymphaeum.[389]

The superstructure stood upon a high podium, approached by sixteen steps. The central part had the form of a tetrastyle, prostyle temple. The four columns of the entrance stood upon high pedestals, with base and cap mouldings. These are carried as a continuous base course beneath the columns of the wings.

The Corinthian capitals are slightly less than a lower diameter in height,[390] a proportion that no Roman example shows.[391] The leaves have the crisp Greek 'V' section, as even the small photograph of the American Expedition will show.[392] In place of the 'flos' on the abacus there is a small bust, probably that of the founder. The entablature is quite simple. The pulvinated frieze is not carved.[393] The sima shows the palmette in its Greek form.[394] The proportions of the entablature are given below, in comparison with those of the Athena Temple at Priene,[395] and those of the Ionic order of the Baths of Diocletian.[396]

Nymphaeum?		Temple, Priene	Baths of Diocletian
architrave	.62	.78	1.12
field of frieze	.35	.5	.93
cornice	.7	.92	1.53
entablature	1.6	2.2	3.6

The common unit is the lower diameter.

The decoration of the front cella wall is richer than we have seen at Palmyra, for the building, dating from the latter half of the second century, is later than any that we have considered. On the panels of the pilasters at the corners of the

cella,[397] and on the side of the jambs of the great cella door,[398] the grape vine is exquisitely carved. The bay leaf occurs frequently, as on the cavetto of the abacus of the capitals,[399] and on the ovolo mouldings of the great door[400] and of the upper niches.[401] Beside the four niches in the pronaos wall, placed one above the other in pairs beside the great door, the plan[402] and the view of the ruins[403] show three niches on the inner wall of the apse that terminated the cella. The exterior of the latter might be called octagonal, but reference to the plan will be better than any description. Within the cella a broad arch opened into the apse. Its archivolt was profiled with the same mouldings as those of the architrave, which was carried around the cella by Corinthian pilasters, and also continued around the apse. The mouldings of the archivolt are brought down upon this half entablature and do not continue it as in the case of an arched intercolumniation. The vaulting seems to have been of stone.

Now in all the details of the building, there is nothing to suggest the massive forms with florid decoration of the architecture of Diocletion's time. We have only to compare his work at Spalato,[404] the Baths in Rome that bear his name,[405] or the Basilica of Maxentius[406] to realize how impossible it is that this building should have been constructed during his reign. Though we only possess examples from this period, carried out on an immense scale, their details suffice for the comparison. The altered proportions, the florid capitals and ornament in general are of a spirit and period totally different from that, still charged with Hellenistic influence, in which the Nymphaeum ? was built.

The emperor's only connection with it was in utilizing a monument that had been standing more than a century, as his headquarters.

GRAND COLONNADE

Colonnaded streets were a feature in the Greek cities of the East, made necessary because of the climate.[407] The line of columns at Palmyra extended more than 1500 meters, south-east and north-west, from the "arch of triumph" near the Temple of Bel to a point opposite the valley of the tombs, where doubtless there was a city gate.

Rivoira has referred to this colonnade as of about the third century A.D.,[408] but it belongs by no means to that period. We

have already seen in the cross colonnade that the inscriptions demand a construction at least as early as the beginning of the second century.[409] While but two inscriptions with assured dates of that century have been found on the consoles of the Grand Colonnade, they are sufficient to indicate that its construction, if after that of the smaller colonnande, must have followed close upon it. Furthermore, the cutting of honorary inscriptions and the erection of statues upon the brackets did not necessarily begin as soon as the columns were in place.

A complete list, so far as we know, of the dated inscriptions follows:

deVogue[410]	Wood[411]	Wadd[412]	C.I.G.	Location	Date
				On back of same drum as next	127 A.D.[413] or 327[414]
		2591		Western part	158
6		2596		Next above	193
		2597		First to east with insc.	224/225
15	IV ,9	2598	4483	East part betw. second arcade and tetrapylon	242/243
4[415]	,10	2599	4490	Near center	247
22	V,11	2600	4491 4492		251
17	VI,12	2601	4484		254
7	VII,13	2603	4486		257/258
23		2602		Beside deV No. 22	258
20	,14	2604	4495	Near deV No. 25	258/259
18		2605		East part beside deV No. 17	259
24	X,19	2607	4496		262
		2606a[416]		Near deV No. 27	262/268
25[417]		2606		Near deV No. 20	262
26[418]	VIII,16	2610	4499		264
		2608[419]	4497	East part, s.e. of deV No. 26	265
27	IX,17	2609	4498		267
28				Near center to left	271
29		2611		Beside last and deV No. 23	271

The best illustrations by which to judge of the capitals, are Bonfils, photo. No. 391, or No. 428 of the American Expedition. They show not only the crisp, 'V' shaped section of the acanthus, characteristic of Greeek work, but also that the "eyes" formed between two leaves, lie quite away from the central stem. This also is a Greek characteristic, as comparison with Roman examples will show.[420]

In the course of the colonnade are set arches[421] that must have been constructed at the same time. All have archivolts,

profiled with three fasciae to correspond to the architrave on the columns. They spring from an impost block, similarly profiled, that rests upon a low pier with a Corinthian cap. This is the logical outcome of a construction such as that in the springing of the apse arch of the Nymphaeum.

NOTES

INTRODUCTION

[1] P. 184.

[2] P. 185.

[3] As Puchstein, in *Jhb.*, XVII, 1902, p. 110.

[4] Butler, *Arch*, p. 342.

[5] Puchstein, *op. cit.*, pp. 109-110.

[6] Appianus, *Bel. Civ.* lib. V.

[7] Butler, *Arch.*, p. 342.

[8] Delbrueck, II, pp. 111, 112, 176.

[9] Diehl, *Manuel d'Art Byzantin*, p. 22.

[10] Butler, *Arch.*, p. 48.

[11] *Cf.* temples of Vesta at Tivoli, and of Minerva at Assisi; and see Delbrueck, D. T., p. 26.

[12] See on frieze of western peribolos wall at Palmyra, p. 31, and Wood tab. XI.

[13] There is one exception, the eastern Temple of Baal at Palmyra.

[14] Modillions are found, however, at Djerash, Philadelphia, Amman and in other instances.

ARAK IL-EMIR

[15] de Vogue, *Temple de Jérusalem*, pp. 38-43 pls. XXXIV-XXXV.

[16] Irby and Mangles, *Travels in Egypt and Nubia, Syria and the Holy Land*, p. 146. See also Josephus, *Antiq. Jud.*, XII, iv, 11; De Saulcy, *Voyage en Terre Sainte*, pp. 211-235; Conder, *Survey of Eastern Palestine*, pp. 65-87. For further references see Butler, *op. cit.*, p. 25.

[17] PUAES II, AI, pp. 1-19.

[18] P. & C., V, pl. XI. *Cf.* the enameled brick decoration in the harem at Khorsabad, P. & C., II, pl. XV.

[19] Magnesia, p. 127; date, p. 22.

[20] Butler, *op. cit.*, p. 10. Examples at Rome may be found in Stadium on the Palatine; Library on the Palatine; Atrium Vestae; Aediculae Vestae; Temple of Antoninus and Faustina; Temple of Saturn (in some cases).

[21] Priene, p. 92. Magnesia, p. 135.

[22] *Op. cit.*, p. 10.

[23] *Cf.* propylaea at Magnesia, Tholos and Theatre at Epidauros; all of these show this in moderation, while the portico of Athena Polias at Pergamon, like the Temple of Fortuna Virilis at Rome, has a decided overhang.

[24] Butler, *op. cit.*, ill. 5, 6, frag. No. 1.

[25] Marquand, fig. 81.

[26] Marquand, fig. 83.

[27] For other instances see *Jhb.* 1914, p. 56 and note 1.

[28] Delbrueck, II, p. 159, refers them to Alexandria; so Wiegand in *Jhb.* 1914, p. 42, and also those at Si and Kanawat.
[29] Marquand, fig. 258.
[30] Butler, *op. cit.,* ill. 5, 6. frag. No. 8.
[31] Epidaure, p. 55.
[32] Marquand, p. 138.
[33] Butler, *op. cit.,* ill. 5, frag. No. 4.
[34] Choisy, I, pp. 322-3.
[35] Butler, *op. cit.,* ill. 5, 6, frag. No. 8.
[36] ZDPV, 1902, p. 157, abb. 30.
[37] Butler, *Arch.,* p. 330.
[38] Butler, *Arch.,* p. 336.
[39] P. & C., I, p. 572, and pl. VIII; *cf.* also Delbrueck, II, p. 159.
[40] P. & C., V, pp. 456, 491.
[41] *Fouilles de Delphes,* II, 1, pl. XV.
[42] Clérisseau, *Monuments de Nîmes,* pl. LIII, LVI.
[43] Butler, PUAES, II, AI, ill. 5, 6, frag. No. 11, and pp. 11, 16.
[44] Homolle, in BCH (1884), VIII, pl. XVII.
[45] JHS, XII, 1891, p. 134.
[46] For Persian capitals, with bulls' heads, breasts, and legs, see P. & C., V, fig. 311; *cf.* P. & C., V, pls. I, IV.
[47] PUAES, II, AI, p. 17; *cf.* de Vogue, *Temple de Jérusalem,* p. 41, and Butler, *Arch,* p. 342.

SUWEDA

[48] de Vogue, pl. I. See also, de Laborde, *Voyage de la Syrie,* p. 119, pl. 59. Butler, *Arch.,* pp. 324-327. B-D, III, pp. 98-101.
[49] Corp. Insc. Semit. II, 162.
[50] As pyramid at Sakkara, P. & C., I, p. 214; pyramid at Medum, P. & C., I, p. 221; the Kabr Hiram, near Tyre, P. & C., III, p. 165.
[51] de Vogue, p. 29.
[52] Newton, *History of Discoveries at Halicarnassus, Cnidus, and Branchidae,* I, pl. 63.
[53] Gardner, *Sculptured Tombs of Hellas,* p. 226.
[54] Reinach, pl. Archit. Asie Min. II, 7.
[55] B-D, I, figs. 117-173.
[56] Puchstein, *die Nabataischen Grabfassaden;* in *Jhb.* 1910. Arch. Anz., I, abb. 1-10.
[57] Marquand, p. 374.
[58] Overbeck, *Geschichte der Gr. Plastik,* II, p. 191.
[59] Hamdey Bey-Reinach, *Une Nécropole Royale à Sidon,* pp. 238-271, pls. 4-11.
[60] Marquand, p. 60.
[61] *Cf.* Marquand, p. 133.
[62] Butler, *Arch.,* p. 326.
[63] Butler, *Arch.,* p. 326; cf. Propylaea at Palatitza, Choisy, I, p. 316; and Temple of Zeus at Nemea, Marquand, p. 134; and Temple of Dionysos at Pergamon, *Jhb. Preuss.,* 1889, p. 38; also Durm, Gr., p. 228, abb. 151.
[64] *Cf.* Choisy, I, p. 316, fig. 15.

[65] Marquand, p. 321.

[66] Knackfuss, *das Rathaus von Milet,* pp. 46, 52.

[67] de Vogue, p. 30.

[68] Durm, R., p. 378.

[69] Butler, *Arch.,* p. 325. Corp. Insc. Semit., II, 195.

[70] de Vogue, pl. IV. de Laborde, *op. cit.,* pl, 56, p. 120; Butler, *Arch.,* pp. 327-334; B-D, III, pp. 93-96.

[71] Butler, *Arch.,* p. 333.

[72] Butler, *Arch.,* fig. 118.

[73] Butler, *Arch.,* p. 354.

[74] For Oriental use of seven columns, *cf.* Benoit, p. 142.

[75] *Cf.* Butler, *Arch.,* pp. 330, 331, and our section on Arak il-Emir.

[76] *Cf.* second (upper) order at Arak il-Emir.

[77] In the agora at Magnesia, the outermost intercolumniations measure 1.80, the rest, 1.30. Magnesia, p. 115, abb. 118-119.

[78] See pp. 11, 12.

[79] Butler, *Arch.,* pp. 330-331.

[80] Butler, *Arch.,* pp. 330-331.

[81] Pergame, fig. on p. 55.

[82] *Cf.* a similar use in the Temple of Saturn at Rome.

[83] Bell, *The Thousand and One Churches,* pp. 448-456; and Delbrueck, II, pp. 97-99.

[84] *Kleinasien,* pp. 38, 39; also in JHS, 1907, p. 115; *cf.* Rivoria, *Le Origini della Architettura Lombarda,* I, pp. 7 ff.

[85] Texier, Ruins, pl. 32.

[86] This can be plainly seen on the Am. Arch. Ex. Photo. No. 520. Less clearly illus. on p. 333 of Butler, *Arch.*

[87] Cited by Butler, *Arch.,* p. 333; see also footnote to p. 316; *cf.* Butler, *Arch.,* p. 32 and note; and *Jhb. Preuss.,* 1904, pp. 266-268.

[88] On this point, and for references, see Strzygowski, in *Jhb. Preuss.,* 1904, p. 263.

[89] Strzygowski, *op. cit.,* taf. VIII.

[90] See pp. 15, 16.

[91] Strzygowski has asserted this as true when the use of vaults was introduced, *Kleinasien,* pp. 38-39.

SI

[92] de Vogue, pp. 31-38, pls. 2, 3, 4.

[93] Butler, *Arch.,* pp. 334-340; his conclusions have been found to be in perfect accord with the date of the Temple, discovered since the publication of this work. A more complete publication by him is found in PUAES, II, A6, pp. 373-385.

[94] Dated by Savignac, *Rev. Bibl.,* 1904, p. 581.

[95] AAES, IV, pp. 85-90, No. 1. PUAES, IV A, pp. 76-78, No. 100.

[96] Butler, *Arch.,* p. 333.

[97] See Butler, *Arch.,* p. 330.

[98] de Vogue, pl. 4.

[99] For a discussion of periboloi, see pp. 26, 27.

[100] Butler, *Arch.,* p. 336.

[101] See under the discussion of the composite capitals of the temple at Mushennef, pp. 19, 20.

[102] de Vogue, pl. 3.

[103] PUAES, II, A6, pp. 385-390.

[104] Pp. 79-91.

[105] But *cf.* pp. 6, 7, n. 28.

[106] 33/32-13/12 is the date of the Temple of Baal Samin. An inscription, found on a pedestal before the Temple of Dushara, PUAES, IV A, No. 101, gives the *terminus ad quem* of about 30 A.D. See also *Florilegium Melchior de Vogue,* pp. 90-91 and note 2.

[107] PUAES, IV A, No. 101.

[108] Priene, p. 229.

[109] Conze, II, p. 44, fig. 20.

[110] Curtius, *Beiträge zur Geschichte u. Typographie Kleinasiens,* p. 56; and illus. in Durm, R., abb. 283, 285; see also Choisy, I, p. 519, and Curtius, in *Abh. Berl. Akad.,* 1872, article *Mahltepa.*

[111] *Ath. Mitt.* 1878, taf. VII.

[112] Priene, abb. 223, pp. 227-229.

[113] Priene, abb. 199, 200, p. 217.

[114] Priene, abb. 273, pp. 268, 269, 274.

[115] *Spalato, ein Markstein der Romanischen Kunst,* p. 326; *cf.* Delbrueck, II, p. 134.

[116] *Spalato, ein Markstein der Romanischen Kunst,* p. 327.

[117] In Ilgs *Kunstgeschichtlichen Charakterbildern aus Oest.-Ungarn.,* pp. 44 ff.

[118] See n. 115.

[119] Sybel, *Weltgeschichte d. Kunst,* p. 419.

[120] Kanawat, Temple of Zeus, central span about 5 meters, Butler, *Arch.,* p. 352.

Kanawat, Peripteral Temple, central span about 5 meters, Butler, *Arch.,* p. 357.

[121] See n. 92.

[122] Butler, *Arch.,* pp. 343-346; see also n. 139.

[123] Butler, *Arch.,* pp. 351-357; more fully pub. with revised plan, PUAES, II, A5, pp. 346-350.

[124] Butler, *Arch.,* pp. 351-357.

[125] Butler, *Rev. Arch.,* VIII, 1906, pp. 413-423; fully pub. in PUAES, II, A5, pp. 315-322.

[126] de Vogue, pl. 28, pp. 74, 75.

[127] Referred to in Butler, PUAES, II, A1, p. 46, and ill. on p. 45; for date see *Jhb.* 1902, p. 106, and n. 34.

[128] Butler, PUAES, II, A1, pp. 43-46.

SERMEDA

[129] Butler, *Arch.,* pp. 47-49.

[130] de Vogue, pl. 93. Butler, *Arch.,* pp. 59, 60.

[131] II Chron., III, 17.

[132] Pausanias, IX, 25, 2; IX, 30, 7; IV, 32, 3.

[133] Humann u. Puchstein: *Reisen in Kleinasien u. Nord Syrien,* abb. 34, taf. XV.

[134] Humann u. Puchstein: *Reisen in Kleinasien u. Nord Syrien,* abb. 39-41, 43, taf. XVI, XVII.

[135] AAES, III, No. 87; Wadd. No. 2687.

[136] Butler, *Arch.*, p. 59.

[137] *Cf.* the section on the Kasr il-Abd at Arak il-Emir.

ATIL

[138] Butler, *Arch.*, pp. 343-346 Rey; *Voyage dans le Hauran,* pl. IX. de Laborde, *Voyage de la Syrie,* pl. 53, pp. 112, 113. von Oppenheim, *vom Mittelmeer zum Persischen Golf,* opp. p. 100 (wrongly labeled Kanawat). B-D, III, pp. 102-105 (calls it south temple).

[139] 151 A.D. so AAES, III, No. 427a; Wadd., No. 2372; C. I. G., No. 4608; C. I. R., III, No. 1237; Dussaud, *Mission dans les Régions désertiques de la Syrie Moyenne,* p. 20; but, B-D, III, p. 102, prefers date of 211 A.D. Wiegand, *Jhb.* 1914, p. 59, follows him. This does not seem possible for all the evidence of the architecture is to the contrary. The forms of the Temple at Hebran (PUAES, II, A5, pp. 323-325) which is dated certainly 155 A.D. (PUAES, III, A5, No. 659) cannot be earlier than those at Atil. Moreover the Princeton Expedition found several temple inscriptions from the time of Antoninus Pius, as, from Djren (about to be published in PUAES as No. 792), from Babiska (PUAES, III, B4, No. 1092), from Burdj Bakirha (AAES, III, No. 48) and from Hebran, mentioned above. On the other hand they found but one dated building of the time of Caracalla, and that is a fortress. Inscriptions of any sort, of the time of Caracalla, in Syria are very scarce.

[140] See pp. 12-14.

[141] See p. 13, n. 109.

[142] See p. 22.

[143] So called by Puchstein, *Jhb.,* XVII, 1902, p. 106; called Sun Temple by Schumacher, ZDPV, 1902, pp. 132-137.

[144] Schumacher, *op. cit.,* p. 132, and taf. 9; Puchstein, *op. cit.,* p. 112.

[145] Texier, Ruins, p. 42.

[146] Best seen in the Am. Arch. Ex. Photo. No. 522.

[147] See pp. 25, 26, 28, 32, 33, 37.

[148] von Oppenheim, *op. cit., loc. cit.*

[149] *Cf.*, p. 29, n. 313.

[150] For clearest view see Am. Arch. Ex. Photo. No. 521, taken from the other temple.

[151] JHS, XXVII, 1907, pp. 114, 115.

[152] *Kleinasien,* p. 38.

[153] *Jhb.,* 1914, p. 64.

SITT-UR-RUM

[154] de Vogue, pl. 94. PUAES, II, B5, pp. 259, 260.

[155] de Vogue, pl. 92, 92 bis.

BURDJ BAKIRHA

[156] By an inscription on the pylon, AAES, III, No. 48; Hermes, XXXVIII, p. 118.

[157] Butler, *Arch.,* facing p. 68.

[158] Choisy, I, p. 566.

[159] Puchstein in *Jhb,* 1902, p. 112.
[160] See n. 156 and 157.
[161] See n. 219.
[162] *Jhb,* 1902, taf. 5, and pp. 94-99; but *cf.* Wiegand, *Jhb,* 1914, pp. 43 ff. and p. 90.
[163] ZDPV, 1902, taf. 9; but see Wiegand, *Jhb.* 1914 p. 56 n. 2.
[164] Puaes, II, A5, pp. 315-322.
[165] Serv. Aen. II, 115.
[166] Koldwey u. Puchstein, *die Griechischen Tempel in Unteritalien u. Sicilien,* p. 79.
[167] See last note.
[168] *Cf.* Butler, *Arch.,* pp. 321-324.
[169] ZDPV, 1902, p. 135, taf. 9.
[170] See n. 219.
[171] de Vogue, p. 46.
[172] See n. 164.
[173] *Jhb,* 1902, taf. 5.
[174] *Rev. Arch.,* 1906, pp. 413-423.
[175] Butler, *Arch.,* p. 67.
[176] d'Espouy, pl. 92.
[177] See pp. 4, 6.
[178] See n. 157.
[179] Magnesia, abb. 103.
[180] Conze, I, p. 16.
[181] Conze, I, taf. LXI, LXII.
[182] Conze, II, taf. XXXVIII- XL, XLV- XLVII.
[183] Magnesia, abb. 92.
[184] Pergame, p. 117.
[185] Porter, *Mediaeval Arch.* I, p. 31 and note.

MUSHENNEF

[186] Butler, *Arch.,* pp. 346-351.
[187] Butler, *Arch.,* p. 347.
[188] AAES, III, No. 380a, Wadd. No. 2212; Inscription on lintel of gate of peribolos, of 41 A.D. in AAES, III, No. 380.
[189] Butler *Arch.,* fig. 122.
[190] Butler *Arch.,* p. 349.
[191] Didymes, p. 151.
[192] d'Espouy, pl. 12.
[193] See pp. 4, 6.
[194] Anderson and Spiers, *Architecture of Greece and Rome,* 2ed, pp. 183, 184.
[195] Petrie, *Third Memoir of Egypt Explor. Fund;* Naukratis I, pl. III.
[196] d'Espouy, pl. 12
[197] d'Espouy, pl. 78.
[198] *Antiquities of Ionia,* II, pl. L.
[199] Durm, G, pp. 247-248. Delbrueck, D.T., pp. 52, 53; Magnesia, p. 170. Examples are:

> *Teos*—Dionysos Temple, end of III Cent. B.C. (begun by at least 193 B.C.) Antiq. Ionia, I, ch. I, pl. II; dated in Magnesia, p. 164 note 2.

Magnesia—1. Agora (Magnesia, abb. 128, 130); 2. Propylon (Magnesia, abb. 135). Both are end of III Cent. B.C. (Magnesia, p. 164).

Priene—1. North Hall of Agora (Priene, abb. 194, 195). About 150 B.C. (Priene, p. 215); 2. Propylon of Athena Temple (Priene, abb. 104). First Cent. B.C. (Priene, p. 133).

Didyma—Temple of Appollo, 37-41 A.D. (Didymes, p. 123, pl. XI). *Cf.* Bates, Harvard Studies, 1899, p. 31.

[200] Delbrueck, D.T. p. 54; Delbrueck, II, p. 162.

[201] See n. 196.

[202] Reinach, pl. Archit. Asie Min. pl. 30 bis. Texier, Ruins, pl. 14.

[203] Koerte, *das Alter des Zeus Tempels in Aizanoi,* in the *Festschrift für Otto Benndorf,* pp. 209-214.

[204] For forms of the temple entablature see Reinach, pl. Archit. Asie Min. pl. 30.

[205] Conze, II, pl. XXVII; for date see p. 45 of same.

[206] Reinach, pl. Archit. Asie Min. pl. 14; Texier, Ruins, pl. 20.

[207] Texier, Description, III, pl. 220.

[208] By Opramaos, after an earthquake; see Benndorf-Niemann, *Reisen in Lykien, Milyas, u. Kibyratis,* p. 118. insc. XIX B. See also pp. 125, 130.

[209] d'Espouy, pl. 95. A similar example at Announa; *Expl. Scient. dans l'Algerie,* II, pl. 17.

[210] Two capitals, showing this, are in the second hall of the Lateran Museum, Alinari photo. No. 6336.

[211] d'Espouy pl. 97.

[212] Princeton Art School, Coll. Photo.; Arch. Anc. Rome 5, 2. 19ItIRgGThe 1-24.

[213] Durm, R, abb. 449.

[214] See pp. 22-24.

KANAWAT

[215] Wadd. No. 2330.

[216] Wadd. No. 2331.

[217] Wadd. No. 2331a.

[218] Butler, *Arch.,* p. 351, places them about the time of Commodus.

[219] Butler, *Arch.,* pp. 351-354. More fully pub., with revised plan, in PUAES, II, A5, pp. 346-350. Also pub. in B-D. III, pp. 134-137.

[220] ZDPV, 1902, taf. 9.

[221] See pp. 17, 18.

[222] See p. 19.

[223] See p. 31, n. 350.

[224] de Laborde, *Voyage de la Syrie,* p. 114, pl. 54; Butler, *Arch.,* pp. 354-357, and attributed to Helios from insc; AAES, III, No. 407. Also pub. in B.-D. III, pp. 109-115.

[225] See p. 9 and n. 74.

[226] See p. 15.

[227] *Cf.* Delbrueck, D.T., p. 50.

[228] See p. 35.

DMER

[229] Butler, *Arch.,* pp. 400-402. B.-D., III, pp. 181-185.

[230] AAES, III, No. 357.

[231] Butler, *Arch.*, fig. 144.

[232] de Vogue, text, p. 33.

[233] Am. Arch. Ex. Photo. No. 450.

[234] See pp. 19-21.

[235] As for instance, Chapel at Srir, Butler, *Arch.*, illus. on p. 51.
Church of St. Simeon Stylites, " " p. 189.
Church of Kalb Lauzeh, " " p. 222.
N. Church at Ruweha, " " p. 227.

[236] Delbrueck, II, pp. 164-167, 175.

[237] PUAES, II, A1, p. 44.

[238] B.-D., III, pp. 14-20. PUAES, II, A4, pp. 243-247.

[239] Butler, *Arch.*, p. 402.

[240] *Cf.* the Baths of Caracalla, and especially the florid composite capitals.

[241] This is found at Rome as early as the Baths of Agrippa, Benoit, p. 473.

PALMYRA

Bel Temple

[242] Wood, tab. I, A, C, tab. III-XXI; Am. Arch. Ex. Photo. No. 436-439 (437, 438 reproduced in Butler, *Arch.*, pp. 50, 51); Bonfils Photo. No. 1323, 1325, 1326, 389; N.B. Parts of this section on the Temple of Bel were pub. in the A.J.A., 1915, pp. 268-276, where, by misadvertance, the names of Guillaume and Berthone were transposed on p. 268.

[243] *Cf.* small side door in temple Bet et-Tai at Djerash (ZDPV, 1902, abb. 12) and windows in Eastern Temple of Baal, Palmyra (see p. 34.) and in small temple at Januh in Lebanon (*Jhb,* 1902, p. 107, and note 45, p. 112); *cf.* Strzygowski, *Kleinasien,* p. 130, note 5.

[244] Wood, tab. XVI.

[245] *Jhb,* 1902, p. 113.

[246] Am. Arch. Ex. Photo. No. 439.

[247] See n. 262.

[248] Wood, tab. XIX.

[249] J. A. VIII, 1883, I, pp. 242-244.

[250] AAES, IV, Pal. No. 3, pp. 62-65.

[251] AAES, IV, Pal. No. 4, pp. 62-65.

[252] See AAES, IV pp, 61, 62.

[253] S. B. A. W., 1887, p. 413, No. 102.

[254] AAES, IV, Pal. No. 1, pp. 58, 59; also A.J.A., 1900, p. 437; J.A., 1901, II, p. 379; Clermont-Ganneau, VII, pp. 12, 25; Lidzbarski, II, p. 283, M.; Sobernheim, MDVG, 1905, II, No. 10.

[255] This date is not positively certain. From the corresponding Greek inscription we can be sure it is of the first cent. A.D. See AAES, III, No. 352; Clermont-Ganneau, VII, pp. 12-14, 26; Lidzbarski, II, p. 284, N.

[256] Pal. text in AAES, IV, Pal. No. 2, pp. 59-62; Sobernheim, MDVG, 1905, II, p. 17, No. 11.

[257] Clermont-Ganneau, VII, pp. 10-11; Lidzbarski, II, p. 280, H.; Sobernheim, MDVG, 1905, II, p. 11, No. 5.

[258] Clermont-Ganneau, VII, pp. 11, 12.; Lidzbarski, II, p. 281, J.; Sobernheim, MDVG, 1905, II, p. 14, No. 7.

[259] Clermont-Ganneau, VII, p. 12; Lidzbarski, II, p. 282, K.; Sobernheim, MDVG, 1905, II, p. 15, No. 8.

[260] Wood, *op. cit., Marmor. Palm.* V.; Wadd. No. 2589; C.I.G. No. 4489. Euting. S.B.A.W., 1887, No. 103.

[261] Sobernheim, MDVG, 1905, II, p. 10, No. 2; Wadd, No. 2580; Wood, *op. cit., Marmor. Palm.* XXV; C.I.G., No. 4488.

[262] Sobernheim, MDVG, 1905, II, p. 1, No. 1; Clermont-Ganneau, VII, pp. 2-10; Lidzbarski, II, p. 276, F; *cf.* Puchstein, *Jhb.,* 1902, pp. 105, 110.

[263] *Jhb.,* 1902, p. 111.

[264] *Inscriptions Sémitiques,* Pal. No. 1, 2.

[265] AAES, IV, p. 61.

[266] Wood, tab. III-XVI, Butler, *Arch.,* illus. on p. 51.

[267] As Karnak.

[268] Boetticher, *Tektonik der Hellenen,* p. 436.

[269] Borrmann, *die Funde von Olympia,* taf. XXIX-XXX.

[270] Stuart and Revett, *Antiquities of Athens,* II, ch. 1, pl. XXXI.

[271] See p. 41, n. 92. There seems also to have been a peribolos at Mushennef, AAES, III, p. 298; and at Djebel Shekh Berekat, Butler, *Arch.,* p. 47, and AAES, III, pp. 104-126.

[272] Texier, Ruins, pl. 11.

[273] ZDPV, 1902, pp. 132-137.

[274] Texier, Ruins, pl. 27.

[275] Butler in PUAES, II, A1, p. 35, and plan on p. 42.

[276] *Altchristliche Architektur,* p. 10.

[277] *Jhb.,* 1901, pp. 133-160; 1902, pp. 87-123.

[278] *Expl. Scient. dans l'Algerie,* pl. 45.

[279] Mau-Kelsey, *Pompeii,* p. 81.

[280] Mau-Kelsey, *Pompeii,* p. 81.

[281] Mau-Kelsey, *Pompeii,* p. 429.

[282] FUR, 15. B.C., 1878, pl. IV, V.

[283] Jordan, III, p. 574.

[284] Martial, III, 20, 11; XI, 1, 12. Juvenal, VI, 153.

[285] Prop. II, 31, 2, 9. Vell. II, 81.

[286] Pliny, H. N. XXXVI, 4, 23. For conjectural plan, see Rom. Mitt. 1896, p. 200.

[287] Jordan, III, p. 66.

[288] *Ruins and Excavations of Ancient Rome,* p. 445.

[289] FUR, 15, 21.

[290] FUR, 16.

[291] Those about the temples of

Bonus Eventus—Character of enclosure cannot be determined. Jordan, III, p. 581. See B.C. 1878, pp. 212-213. 1891, pp. 224-227. FUR, 21.

Claudius—Mart. *de Spect.* II, 9. Jordan, FUR, 33, but *cf.* Jordan, III, p. 233, and FUR, 29, 30, 35, 36.

Divorum in aede Divi Titi—Jordan, III, pp. 564, 565.

Iupiter Stator and Iuno Regina—Jordan, III, pp. 538-542. FUR, 21.

Hercules and Muses—Jordan, III, p. 545.
Quirinus—Jordan, III, pp. 407-410. FUR, 16.
Venus and Rome—Jordan, III, pp. 17-20. FUR, 29.

[292] Delbrueck, II, p. 125. Vitruv. III, 2, 5.

[293] Wood, tab. I, 'C', and plan, tab. III.

[294] Wood, tab. XII, 'B'.

[295] Wood, tab. I, 'C', and tab. IV.

[296] Bonfils, Photo. No. 389. Am. Arch. Ex. Photo. No. 437 (reproduced in Butler, *Arch.*, p. 51).

[297] Wood, p. 42, description of tab. IV.

[298] Butler, *Arch.;* illus. p. 51; *cf.* the peribolos wall of the temple of Aphrodite at Aphrodisias, referred to in note 85.

[299] Butler, *loc cit.,* and Wood, tab. XIV and XI.

[300] Bonfils, Photo, No. 389.

[301] See n. 294.

[302] *Cf.* p. 16, n. 151 and n. 153.

[303] Wood, tab. VI, VII, IX, XI, XIV.

[304] *Cf. Jhb. Preuss,* 1904, pp. 260-262.

[305] See note 296.

[306] See portions of wall each side of entrance, Wood, tab. IV.

[307] See discussion of west wall below.

[308] *Jhb.,* 1902, p. 111.

[309] No. 3.

[310] No. 4.

[311] No. 5.

[312] *Cf.* AAES, IV, p. 65.

[313] *Cf.* Strzygowski, in *Jhb. Preuss,* 1904, p. 288.

[314] Bonfils, Photo, No. 1323, 1326. Wood, tab. XVII (omits decoration).

[315] See pp. 9-11.

[316] See pp. 11-12.

[317] See pp. 12-14.

[318] *Cf.* AAES, IV, p. 93 and PUAES, IV A, intro. pp. ix, x.

[319] Casts of the entire door are now on exhibition in the Library of Princeton University.

[320] de Vogue, pl. 3, 'A'.

[321] Wood, tab. XVI.

[322] ZDPV, 1902, pp. 137, 138.

[323] Wood, tab. XVIII, 'I'.

[324] Wood, tab. XVII, 'F'.

[325] PUAES, II, B5, op. p. 236.

[326] Epidaure, pl. VII, date, p. 106.

[327] Epidaure, ill. p. 210, date, p. 214 and note 1.

[328] Reinach, pl. Archit. Asie Min. 11.

[329] Choisy, I, p. 551.

[330] B.C., 1878, tav. II-III, fig. 1.

[331] B.C., 1878, p. 24.

[332] B.C., 1878, p. 12.

[333] Wood, tab. III, IV, and restoration in tab. XIV. N.B. The plan

in tab. IV, giving the conjectured elevation of the exterior, is taken from the interior; and vice versa in tab. XIV.

[334] Sturgis, *Dict. of Arch.* III, p. 728. It must be remembered that the upper part of Wood's restoration is entirely a matter of conjecture. See tab. I, 'B', for the condition of the entrance at the time of Wood's visit.

[335] See pp. 12-14.

[336] Tomb of Elabelos, 103 A.D. see below.

[337] See p. 16.

[338] Durm, R. abb. 465.

[339] Wood, tab. IX, XI.

[340] *Jhb.,* 1914, pp. 37-50, 58-63.

[341] Wood, tab. XV.

[342] Cresy and Taylor, *Arch. Antiq. of Rome,* pl. LXXIII. d'Espouy, pl. 53, 56.

[343] Cresy and Taylor, *Arch. Antiq. of Rome,* pl. LXXXI.

[344] Cresy and Taylor, *Arch. Antiq. of Rome*, pl. LXXXVI.

[345] See Marquand, fig. 261.

[346] Wood, *Ruins of Baalbec,* tab. XXXVII.

[347] *Jhb.,* 1902, taf. 9.

[348] *Revue des Deux Mondes,* CXLII, 1897, p. 400.

[349] *Nuova Antologia,* 1904, p. 266.

[350] Delbrueck, II, p. 165.

[351] Wood, tab. XV.

[352] Wood, tab. XI. *Cf.,* that at Aphrodisias referred to in note 85.

[353] Photo. Anderson No. 1850, reproduced in fig. 55 of *Tropaeum Traiani,* by Studniczka, which see, pp. 93-104, on this point.

[354] d'Espouy, pls. 62-64.

[355] Studniczka, *op. cit.,* pp. 85, 86.

[356] d'Espouy, pl. 80.

[357] d'Espouy, pl. 75.

[358] On doors; Wood, tab. VIII 'B', XII 'A', XLVIII; on windows and niches, X 'B', 'C', XII 'B', L.; on cymatia of cornices, XXIII, XLVI.

[359] Vopiscus, *Div. Aurelianus,* ch. 31.

Tombs

[360] Wood, tab. II, 23, 38.

[361] de Vogue, p. 73 and pl. 26.

[362] de Vogue, *Sém. Insc.* Pal. No. 36. Wadd. No. 2614. C.I.G. No. 4504.

[363] *Cf.* p. 8.

[364] Wood, tab VIII 'D'.

[365] Wood, tab. XLII.

[366] Wood, tab. I.

[367] Wood, tab. LV 'A', LVI, LVII; location, tab. I 'a'.

[368] Wood, *op cit., Marmor. Palm.* II; de Vogue, *Sém. Insc.* Pal. No. 37-59; C.I.G. No. 4505; Wadd, No. 2615.

Cross Colonnade

[369] Wood, tab. I, 'P', II, 11. Am. Arch. Ex. Photo. No. 446.

[370] *Sém. Insc. Pal.*

[371] Waddington, *Inscriptions Grecques et Latines de la Syrie.*

[372] This inscription mentions a coating of colour applied to the architraves.

[373] The Palymrene figures are partly erased, but the latest possible date would be 289 A.D.

Eastern Temple of Baal or Baal Samin

[374] Wood, tab. XXVII to XXXI, and XXXII 'E'. Location in tab. I 'M', II, 27. Am. Arch. Ex. Photo. No. 443, 444.

[375] de Vogue, *Sém. Insc.* Pal. No. 16. See also Wadd. No. 2585; Clermont-Ganneau, VII, pp. 14, 15 and C.I.G. No. 4482.

[376] Lidzbarski, II, p. 287, P. *cf.* MDVG, 1905, II, p. 21, No. 14, and Clermont-Ganneau, VII, p. 14.

[377] See note 353.

[378] Cornice of Temple of Vespasian, 0.8 lower diameters; of Pantheon, interior order, 0.85. of exterior order, 0.9.

Nymphaeum

[379] Called "Diocletianische Standlager, namentlich dessen Principia" by Puchstein, *Jhb.,* 1902, p. 105; illustrations: Wood, tab. XLIV-LII, and LV 'B'; Am. Arch. Ex. Photo. No. 441, 442.

[380] Wood, *op. cit., Marmor. Palm.* XXVII. Wadd. No. 2626; C.I.L. III, 133, p. 1219, No. 6661.

[381] Wood, p. 31. Puchstein, *loc. cit.* Guillaume, in his report on the work of Berthone, *Revue des Deux Mondes,* CXLII, 1897, p. 395, mentions" les restes de ce qu'on nomme le palais de Dioclétien, mais qui semble plutôt un chateau d'eau ou une nymphée." *Cf.* also Euting, SBAW, 1885, p. 671 on No. 4 and Clermont-Ganneau, V, p. 93, n. 2.

[382] No. 14.

[383] Marked 18 on tab. II. Nos. 15, 16, and 17 even in his time were "so much ruined that we could not even guess at their plan." No one of these could possibly justify the description in de Vogue.

[384] de Vogue, *Sém. Insc.* plate 2, No. 14.

[385] Wood, tab. XLIV.

[386] Wood, tab. LII.

[387] Vitruv. V, 1, 17. See Choisy, *Vitruve,* I, pp. 186-188. IV, pl. 46, 47. also, Prestel, *des M. Vitruvius Pollio basilica zu Fanum Fortunae,* Strassburg, 1901.

[388] Wood, tab. XLV, LII. Durm, R. abb. 701.

[389] See note 381 and compare the restoration of the (later) Nymphaeum at Amman, Butler in PUAES, II, A1, ill. 38, and pl. V.

[390] Actually about 0.96 lower diameters.

[391] Temple Mars Ultor, capitals equal 1.11 lower diameters
" Vespasian, " " 1.23 " "
" Castor, " " 1.11 " "
Pantheon, interior, " " 1.14 " "
" exterior, " " 1.12 " "

[392] No. 442.

[393] The fragment pub. in *Jhb. Preuss.* 1904, p. 276, is undoubtedly from a niche, such as shown in Wood, tab. XLVII.

[394] See p. 31 and n. 355.

[395] Mauch, *Architektonischen Ordnungen,* taf. 29.

[396] Mauch, *Architektonischen Ordnungen,* II, taf. 2.
[397] Wood, tab. LI 'A'.
[398] " " LI 'B'.
[399] " " XLVI, and LI 'A'.
[400] " " XLVIII.
[401] " " L.
[402] " " XLIV.
[403] " " LII; see also Am. Arch. Ex. Photo. No. 441.
[404] Adam, *Ruins of the Palace of the Emperor Diocletian at Spalato;* Niemann, *der Palast Diokletian's in Spalato:* Hébrard et Zeiller, *Le Palais de Diocletian.*
[405] Paulin, *Thermes de Dioclétien.*
[406] Bunsen, *Beschreibung,* III, p. 291.
Grand Colonnade
[407] As at Ephesos, Antioch, Djerash, Amman.
[408] Rivoira, Lombardic Architecture, I, p. 50.
[409] *Cf.* Clermont-Ganneau, V, pp. 93, 94.
[410] *Sém. Insc.*
[411] Roman numerals refer to his Palmyrene inscriptions; Arabic to the Greek inscriptions.
[412] See n. 371.
[413] Clermont-Ganneau, V, pp. 92-94, No. 638.
[414] Wolfe Expedition to Babylonia; Papers of the American School at Athens, vol. III, 1884-1885, pp. 439, 440.
[415] de Vogue makes an error by translating the date as 147.
[416] The Palmyrene is not given; See C.I.R. No. 1045 which gives date 262/268.
[417] Date corrected by Littmann, AAES, IV, p. 84. Clermont-Ganneau, VII, p. 38.
[418] Wadd. and Loewy, ZDMG, XVIII, 1864, No. VIII, give date as 267.
[419] Palmyrene text in AAES, IV, Pal. No. 10. *Cf.* Clermont-Ganneau. VII, pp. 34, 35.
[420] Very close to the stem are the 'eyes' between the leaves of the capitals of the temples of Mars Ultor, Vespasian, Concord, Vesta, Antoninus and Faustina, and of the Pantheon portico. A typical Greek example with the 'eyes' far out from the central stem is the capital of the Tholos at Epidauros.
[421] Am. Arch. Ex. Photo. No. 429, 431, 430. Bonfils, Photo. No. 395.

LIST OF ABBREVIATIONS

Periodicals

Abh. Berl. Akad. .. Abhandlungen der K. Akademie der Wissenschaften zu Berlin.

A.J.A. .. American Journal of Archaeology.

Ath. Mitt. .. Mitteilungen des Deutschen Archaeologischen Instituts in Athen.

B.C. .. Bulletino della Commissione archaeologica communale di Roma.

BCH .. Bulletin de correspondance hellenique.

Hermes .. Hermes; Zeitschrift für classische Philologie.

J.A. .. Journal Asiatique.

Jhb. .. Jahrbuch des K. Deutschen archaeologischen Instituts.

Jhb. Preuss. .. Jahrbuch der K. Akademie der Wissenschaften zu Berlin.

JHS .. Journal of Hellenic Studies.

MDVG .. Mitteilungen der Vorderasiatischen Gesellschaft.

Rev. Arch. .. Revue Archéologique.

Rev. Bibl. .. Revue Biblique.

Rom. Mitt. .. Mitteilungen des Deutschen archaeologischen Instituts in Rom.

SBAW .. Sitzungsberichte der K. P. Akademie der Wissenschaften zu Berlin.

ZDMG .. Zeitschrift des Deutschen morgenlandischen Gesellschaft.

ZDPV .. Zeitschraft des Deutschen Palaestina-Vereins.

Books

AAES .. Publications of an American Archaeological Expedition to Syria in 1899-1900. 4 parts. New York, 1903. Part II is referred to separately as Butler, *Arch.* q. v.

Am. Arch. Ex. Photo .. Photographs taken by an American Archaeological Expedition to Syria in 1899-1900. Apply to University Library, Princeton, N. J.

Benoit .. Benoit: L'Architecture; l'Antiquité. Paris, 1911.

B.-D. .. Bruennow u. von Domaszewski: die Provincia Arabia. 3 vols. Strassburg, 1904-1909.

Butler, *Arch.* .. H. C. Butler: Architecture and other Arts in Northern Central Syria and the Djebel Hauran. Part II of the Publications of an American

Archaeological Expedition to Syria in 1899-1900. q. v.

Benndorf .. Benndorf u. Niemann: Reisen in Lykien und Karien. 2 vols. Vienna, 1884-1889.

Choisy .. Choisy: Histoire de l'Architecture, 2 vols. Paris, 1899.

Clermont-Ganneau .. Clermont-Ganneau: Recueil d'Archéologie Orientale, 7 vols. Paris, 1888-1906.

Conze I .. Conze, Hauser, Niemann: Archaeologische Untersuchungen auf Samothrake, Vienna, 1875.

Conze II .. Conze, Hauser, Benndorf: Neue Archaeologische Untersuchungen auf Samothrake, Vienna, 1880.

Delbrueck .. Delbrueck: Hellenistische Bauten in Latium. 2 vols. Strassburg, 1907, 1912.

Delbrueck, D. T. .. Delbrueck: die drei Tempel am Forum Holitorium in Rom. Rome, 1903.

Didymes .. Pontremoli et Haussoullier: Didymes, Fouilles de 1895 et 1896. Paris, 1904.

Durm, Gr. .. Durm: die Baukunst der Griechen, 2te auflage. Darmstadt, 1892.

Durm, R. .. Durm: die Baukunst der Etrusker und der Römer, 2te auflage, Stuttgart, 1905.

Epidaure .. Defrasse et Lechat: Epidaure, Paris, 1895.

d'Espouy .. d'Espouy: Fragments d'architecture antique. Paris, n. d.

FUR .. Lanciani: Forma Urbis Romae, Milan, 1893-1901.

Jordan .. Jordan: Topographie der Stadt Rom im Alterthum. vol. I, 3 parts, 1878-1907.

Jordan FUR .. Jordan: Forma Urbis Romae, Berlin, 1874.

Koldewey .. Koldewey u. Puchstein: die Grieschischen Tempel in Unteritalien und Sicilien, Berlin, 1899.

Lidzbarski .. Lidzbarski: Ephemeris für Semitische Epigraphik, 2 vols. Giessen, 1902, 1908.

Magnesia .. Magnesia am Maeander, Bericht über die Ergebnisse der Ausgrabungen der Jahre 1891-1893 von Carl Humann; die Bauwerke bearbeitet von Julius Kohte. die Bildwerke von Carl Watzinger. Berlin, 1904.

Marquand .. Marquand: Greek Architecture, New York, 1909.

Pergame .. Pontremoli et Collignon: Pergame.

Pergamon .. Ergebnisse der Ausgrabungen zu Pergamon.

Priene .. Wiegand u. Schrader: Priene, Ergebnisse der Ausgrabungen und Untersuchungen in den Jahren 1895-1898. Berlin, 1904.

P. & C. .. Perrot et Chipiez: Histoire de l'Art dans l'antiquité, 8 vols. Paris, 1882-1903.

PUAES .. Publications of the Princeton University Archaeological Expedition to Syria in 1904-5, and 1909. Leyden, 1907—

Reinach .. Lebas: Voyage Archéologique en Grèce et en Asie Mineure. Publiées et commentées par S. Reinach, Paris, 1888.

Texier, Description .. Texier: Description de l'Asie Mineure, Paris, 1839-49.

Texier, Ruins .. Texier and Pullan: Principal Ruins of Asia Minor. London, 1865.

de Vogue .. de Vogue: Syrie Centrale; Architecture civile et et religieuse, 2 vols, Paris, 1865-1877.

Wadd. .. Waddington: Inscriptions Grecques et Latines de la Syrie.

Wood .. Wood: Ruins of Palmyra. London, 1753.








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